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THE STATE DEPARTMENT OF HEALTH, HARTFORD

CONNECTICUT
HEALTH BULLETIN

Vol. 38 January, 1924 No. 1

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STATE DEPARTMENT OF HEALTH

A VISIT TO THE LABORATORY

In the southern part of the state on a plot of ground marked "Experiment Station", in New Haven, stands a dingy looking house which the casual observer would pass by without notice were there not posted before the front entrance a sign "Laboratory, State Department of Health". This is interesting—you pause as you read the sign. You had pictured a much more imposing building—one more worthy of the quality of work which is done there. Since you are not often in this part of the state, what better way to spend the morning than to visit the Laboratories where you so often sent samples of water, and milk, for examination, and cultures for diagnosis.

You are warmly greeted by the Director and his assistant. You feel at once, however, that this is an especially busy day, for the place is teeming with activity and you seem to have entered into the midst of it. But you are assured that this is nothing unusual, just the daily routine.

Recording the Specimens

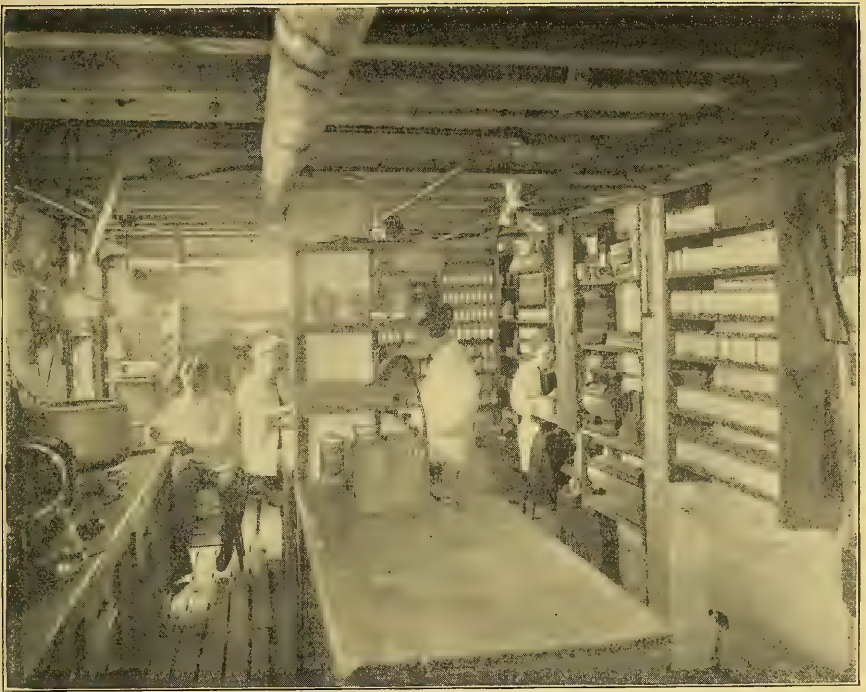
Could you see the laboratory in operation? Why surely! Visitors are always welcome. And so the tour of inspection begins. First the receiving room in the basement where the cultures, so carefully packed in the double containers, come in twice a day, from physicians and health officers. The morning consignment includes samples from the morning mail, as well as those which had been received the night before, and which, by special arrangement with the New Haven Health Department, had been incubated, at body temperature, in their laboratory over night, in order to be ready for examination early in the morning. The samples are immediately recorded on special forms for each type, at the same time being numbered consecutively. The "K. L's" or diphtheria, cultures are checked first, duplicate cultures made from the swabs from the sterile envelopes, and each placed in the rack ready for incubation. From the nose and throat cultures

Laboratory occupies the First Floor and the Basement

of suspected carriers, no duplicates are made, these being placed next in the rack for incubation where they are kept for several hours at 98°, or the same temperature as the human body.

The samples from suspected typhoid patients may be of three kinds—a closed capillary tube within which is a drop or two of blood, a sample of feces, or a sample of urine. Each of the latter two arrives in a tightly closed sterile bottle in a double container, that containing the feces having a small amount of glycerine in it. These are properly recorded and sent to the Diagnostic Division for examination for typhoid germs.

The sample with suspected tuberculosis germs contains also a small quantity of carbolic acid to destroy the germs. This prevents any danger of infection while making the examination. This specimen is recorded, and, after being mixed with certain chemicals, is put int a shaking machine for fifteen minutes, after which it is centrifuged for fifteen minutes, and then examined under the microscope for the tuberculosis germs, after proper staining.



Receiving Room in the Basement

In the Wasserman vial containing blood from a patient suspected of having syphilis, the clot is carefully removed and the remainder centrifuged, for eight minutes, to separate the blood serum. This is drawn off into a sterile vial which has been carefully marked to correspond with the original container. This is now ready for the Wasserman test.

Other specimens from patients are received for diagnosis such as smears of blood on glass slides to determine the presence of the germ of gonorrhea, blood smears for malaria, feces and urine for dysentery bacilli, animal brains for Negri bodies of rabies, and material for anthrax bacilli.

While you are absorbed in watching this accurate method of marking the samples sent in for examination, you are aroused by a loud chorus which seems to come from your left. You are somewhat startled—you follow the sound and find that these are guinea pigs calling for their noon meal. Here are the cages with good healthy stock for testing the virulence of the diphtheria germs, and for securing the complement used in carrying out the Wasserman test. These animals are given the best of care.

Sterilization of Equipment

But we must hurry on for there are many things to see. Adjoining is the room where the equipment is made sterile. Recalling the white walls of other scientific laboratories where this part of the work is accomplished, you receive a rude shock for here is a room tucked away in the basement, dimly lighted and far from suggestive of sterile materials. You watch the method of how all glassware is washed in several soap solutions, then rinsed in weak acid and water, dried, and later sterilized in modern sterilizing apparatus, and are convinced of its thoroughness, in spite of the handicaps under which it is done. This completes the inspection of the basement, even to the dark corners where equipment and supplies have to be stored.

Diagnostic Division

The first impression of the main floor is one of confusion, typewriters running at full speed, filing cases blocking spaces, numerous office desks, people looking through microscopes, or counting bacterial colonies, or reading reactions in the Wasserman test. Your eye cannot follow it all, but you are conscious that there is "no crack of space" as the little boy said when attempting to watch the street parade. You need a guide! indeed you hesitate to take a step for fear of disturbing some important piece of work because of the crowded conditions, but, as you become accustomed to conditions you see that the space on this floor consisting of two rooms and a small hall, has been subdivided so as to provide a section for each phrase of the work. The Diagnostic Division occupies one room, the water and milk examination and thermometer testing another, while office desks are placed wherever space admits.

In the Diagnostic Division are made examinations of material sent in for specific disease germs. Each sample is treated according to the approved standard laboratory methods, with the proper dilutions, right incubation period for its cultivation in the most favorable medium, making of slides by fixing some of the material on them, staining with special stains, and examining under the microscope for final identification. Infinite care and patience is given to this work, and, when the findings are recorded, one may have confidence that the final report is the result of repeated tests and painstaking care. In one instance, in the search for Negri bodies, slides made from the brain of the animal were searched for a long time before the Laboratory was willing to give a negative report for rabies, or hydrophobia.

In making the Wasserman test great care is taken in the preparation of the materials, which admit of such delicate reactions that the reading of specimens will not only determine the presence of syphilis, but the extent of the reaction will indicate to some degree the results of treatment.

Chemical Division

In making the water and milk examination the utmost care is used in handling the samples so that there may be no possible source of contamination. The temperature of each is noted on arrival, and any unduly high temperature recorded as evidence of improper icing. The milk examination includes the refractive index test for watering; the dirt test whereby the milk is filtered through a disk of cotton and thereon deposits its measure of dirt; the Babcock test for the percentage of butter fat; and a bacterial count. The last is done by diluting samples of milk, and plating them with a special medium, after which they are incubated 24 hours, and the colonies of bacteria examined and counted. In the water examination chemical tests are made for free, and albuminoid, ammonia, nitrates, nitrites, and cholorides. It is examined bacteriologically for total count and for the preence of B. coli which is an indication of pollution. In a very small space with glass walls in one corner of the chemical laboratory there are very delicate balances for weighing the solids which are present in water samples.

Reports of these examinations go back to the sender of the sample together with the laboratory interpretation of the results. On the milk report is pasted the cotton disk with its suggestive coloration which is sufficient evidence of the presence of dirt.

Thermometer Testing

In the room where this work is being carried on your eye is caught by a type of machine quite unfamiliar to you. You are told that this is for testing clinical thermometers. It is a cylindrical machine with capacity for 96 thermometers. each sectional holder carrying 24. The water in the bath in which these thermometers are placed can be accurately heated to the desired temperature and successive tests are made at 96°, 100°, 104°, and 106° F. Thermometers found to be accurate within .2° F. are approved. Should 95 per cent of the samples submitted by a firm pass this test, and an inspection of the manufacturer's plant show satisfactory conditions, the manufacturer's seal may be added together with a special letter, after which these thermometers may be admitted for sale in Connecticut.

By this time you feel that you have spent a very full, but profitable morning. You must give only a cursory glance at the records, which you note, even thus hurriedly, to be so well systematized as to be available at a moment's notice. You are conscious that this applies to the Laboratory as a whole. Such quality and volume of work would not be possible in these crowded quarters were it not so well systematized and were there not such splendid team play in the performance of it. You leave with a feeling of confidence in this center which has such an important part to play in safeguarding the health of the people, and you resolve at the earliest moment to lend your influence to arouse the public to the need for more adequate quarters in which the work may be accomplished.

During October, November and December over 9560 specimens were examined at the Bureau of Laboratories.

In the February Bulletin the Laboratory Diagnosis for Diphtheria germs will be discussed.

Laboratories

CLINICAL THERMOMETERS TESTED

October 19, 1922 to December 31, 1923

Number of thermometers passing	1,459
Number of thermometers rejected	168
Total number of thermometers tested	1,627
Number of thermometers certified during this period	97

Report for December, 1923

DIAGNOSTIC DIVISION

	+	—	?	Total
Typhoid	9	43	6	58
Paratyphoid A	....	1	....	1
Paratyphoid B	....	58	....	58
Diphtheria:				806
Diagnosis	98	424	....	
Release	44	240	....	
Diphtheria Carriers:				680
Diagnosis	61	572	....	
Release	11	36	....	
Diphtheria Virulence	14	22	....	36
Tuberculosis	9	100	....	109
Syphilis	144	995	54	1,193
Gonorrh ea	9	29	....	38
Glanders	....	....	....	
Pneu .monia	....	1	....	3
Type I	....	....	....	
Type II	....	....	....	
Type III	1	....	....	
Type IV	1	....	....	
Malaria	....	1	....	1
Rabies	....	....	....	
Feces for Typhoid	....	12	....	12
Urine for Typhoid	....	5	....	5
Feces for Ameba	....	....	....	
Special	....	2	....	2
Totals	401	2,541	60	3,002

CHEMICAL DIVISION

Milk Examination

Number of towns sending samples	12
Number of samples tested	139
Number of samples below fat standard	5
Number of samples showing low refractive index, indicating watering	0

Water Examination

Number of towns sending samples	36
Samples of water examined	71
Samples of sewage examined	0
Total number of samples examined in the division of chemistry during the month of December, 1923	210

Vital Statistics

MONTH OF NOVEMBER, 1923

Births

The reports for births received in this Department numbered 2,229 as compared with 2,357 for 1922, a decrease of 128. The average number of births from 1918-1922, inclusive, is 2,650. It therefore follows that 1923 is 421 below the average. The birth rate of 18.1 is the lowest which has appeared for the state in the last six years. Fifteen towns of more than 5,000 population reported more births for 1923 than were returned for 1922. The six towns which follow reported increases of ten or more and the figures which follow them indicate the actual increase. Hartford, 30; Meriden, 15; Norwich, 23; Plainfield, 14; West Haven, 12; Windham, 15. The following table shows the deviation of the number of births from the average over the period 1918-1922.

Months	Deviation below Average
January	564
February	565
March	466
April	425
May	321
June	250
July	232
August	293
September	417
October	575
November	421

It will be noted that these deviations showed a tendency to decrease during the early months of the year, which seemed to indicate a tendency for the births to approach the average. This favorable trend persisted until July, in which month the deviation below the average was the lowest so far experienced during the year. But August witnessed an adverse turning point and since then the number of births has deviated erratically from and below the average until, in October, the maximum deviation was recorded.

During the month 78 still births were reported, making the total number of births 2,307. Of this total the still births compose 3.38 per cent. A year ago there were 93 still births and a total number of births of 2,450 of which the still births comprised 3.80 per cent.

Deaths

During the month 1,297 deaths were reported. With the exception of 1921, this is the most favorable mortality the state has experienced since 1918. As 1,346 deaths were reported one year ago, the record for 1923 is 49 below this figure. In making an average comparison the year 1918 is purposely excluded, owing to the prevalence of Influenza in that year. The average number of deaths for the years 1919-1922 is 1,327. From this it appears that 1923 is 30 below the average.

In order that some comparison may be effected between the deaths resulting from certain causes for the years 1922 and 1923, the following has been complied.

CAUSES OF DEATH	1923	1922	INCREASE	DECREASE
Diseases of the Heart	168	203	....	35
Encephalitis Epidemic	2	2	....	....
Pneumonia Undefined	2	3	....	1
Typhoid Fever	4	5	....	1
Measles	10	6	4	....
Scarlet Fever	7	5	2	....
Whooping Cough	3	8	....	5
Diphtheria	18	32	....	14
Influenza	20	12	8	....
Tuberculosis, (Pulmonary)	91	82	9	....
Tuberculosis, (Other Forms)	8	6	2	....
Cancer	132	125	7	....
Cerebrospinal Meningitis	2	1	1	....
Poliomyelitis	1	3	....	2
Pneumonia, (Lobar)	48	51	....	3
Pneumonia, (Broncho)	52	54	....	2
Diarrhoea & Enteritis, (Under 2)	16	33	....	17
Puerperal Diseases	10	15	....	5
Accident	77	99	....	22
Suicide	11	13	....	2
Homicide	2	3	....	1
Other Causes	613	585	28	....
Totals	1,297	1,346	61	110

Encouraging decreases will be noted for Diseases of the Heart, Diphtheria, Diarrhoea and Enteritis Under 2, and Accident. The fatalities from automobile accidents numbered 22, a decrease of 14 over a year ago when 36 were tabulated.

Infant Mortality

There were 153 deaths of infants under one year of age as contrasted with 131 of 1922, an increase of 22. The infant mortality rate of 60.3 per 1,000 living births is 9.9 points higher than one year ago.

Marriages

The number of marriages performed during the month fell from 1,309 in 1922 to 1,291 in 1923, a decrease of 18. Again excluding 1918 which was clearly affected by the Influenza Epidemic, the average number of marriages for the month is 1,341 from which it appears that 1923 is 50 below the average.

November Statistics 1923	Population Based on U S Census Est. as of July 1, 1923	TOTALS: Births	TOTALS: Still Births	TOTALS: Marriages	TOTALS: Deaths	DEATH RATES: All Causes (per 1,000 population)	DEATH RATES: Tuberculosis (per 1,000 population)	DEATH RATES: Children under 1 year (per 1,000 births)	AGE GROUPS: Under 1 year	AGE GROUPS: 1 to 5 years	AGE GROUPS: 65 years and over
State of Connecticut	1,475,122	2229	78	1291	1297	10.6	0.7	60.3	153	55	465
Ansonia	18,541	19	2	16	11	7.1	1.3	150.0	5	....	3
Branford	6,835	6	....	5	4	7.0	....	....	....	....	3
Bridgeport	158,218	240	9	140	120	9.1	0.9	73.8	21	7	30
Bristol	23,165	48	2	26	17	8.8	2.1	41.7	2	5	4
Danbury	22,081	30	1	18	35	19.0	1.1	43.4	2	1	12
Derby	12,048	33	1	....	10	10.0	1.0	27.0	1	....	4
East Hartford	12,913	12	1	7	7	6.5	....	68.9	1	1	4
Enfield	12,425	15	3	28	5	4.8	....	....	....	....	3
Fairfield	13,400	19	....	3	17	15.2	....	213.3	4	....	3
Glastonbury	5,878	2	....	5	2	4.1	....	....	....	....	2
Greenwich	24,091	27	3	45	13	6.5	1.0	24.4	1	....	2
Groton	10,211	13	....	7	4	4.7	....	....	....	....	2
Hamden	9,606	13	....	8	8	10.0	1.2	61.9	1	....	5
Hartford	152,140	306	14	159	132	10.4	0.6	35.0	11	2	42
Killingly	8,739	13	1	4	3	4.1	....	....	....	....	1
Manchester	20,074	27	2	20	18	10.8	1.2	107.1	4	1	4
Meriden	35,736	64	1	27	47	15.8	1.0	31.1	2	2	17
Middletown	22,420	24	2	12	39	20.9	....	59.6	3	2	15
Milford	12,293	7	....	4	9	8.8	1.0	....	....	....	7
Naugatuck	15,890	14	....	7	7	5.3	0.8	59.4	1	1	2
New Britain	64,784	108	5	54	40	7.4	0.4	60.0	8	1	12
New Haven	172,849	302	6	161	171	11.9	0.6	51.7	17	8	61
New London	27,800	45	2	33	29	12.5	0.4	70.6	4	2	9
Norwalk	28,[illegible]29	37	....	28	26	10.8	0.8	39.3	2	2	10
Norwich	30,152	71	1	29	43	17.1	2.8	80.0	5	2	16
Plainfield	8,341	17	1	8	9	12.9	1.4	71.9	1	....	4
Plymouth	6,220	7	....	2	1	1.9	....	....	....	....	....
Putnam	8,779	12	1	8	9	12.3	1.4	....	....	1	2
Seymour	7,500	8	1	2	5	8.0	3.2	184.6	2	....	....
Shelton	10,531	19	....	9	24	27.3	....	188.4	3	....	5
Southington	9,133	11	....	7	5	6.6	2.6	67.0	1	....	2
Stafford	5,438	5	....	4	4	8.8	....	....	....	....	2
Stamford	44,002	86	2	59	41	11.2	0.3	56.1	5	....	14
Stonington	10,607	13	....	9	6	6.8	....	67.8	1	....	2
Stratford	14,738	18	....	4	7	5.7	0.8	44.8	1	1	3
Thompson	5,145	7	....	7	4	9.3	....	330.2	3	....	1
Torrington	23,518	35	1	25	9	4.6	....	....	....	1	4
Vernon	8,837	9	....	10	6	8.1	....	....	....	....	3
Wallingford	12,317	10	....	3	10	9.7	1.0	....	....	....	7
Waterbury	98,378	171	7	92	96	11.7	0.5	77.7	15	10	22
Watertown	6,789	6	....	2	2	3.5	1.8	....	....	....	1
West Hartford	10,312	8	....	5	11	12.8	....	338.9	5	1	3
West Haven	16,854	30	....	9	14	10.0	....	33.3	1	....	3
Westport	5,421	9	....	9	8	17.7	....	328.7	2	1	2
Winchester	9,060	14	1	9	6	7.9	....	59.1	1	....	5
Windham	14,142	39	2	20	20	17.0	1.7	31.9	1	....	9
Windsor	6,139	1	....	4	2	3.9	....	....	....	....	1
Towns under 5,000	211,703	199	6	138	181	10.3	1.1	57.9	16	3	97

for the month of November, 1923

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis—Pulmonary	Tuberculosis—Other Forms	Cancer	Meningitis—Cerebro-Spinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea and Enteritis under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
168	2	2	4	10	7	3	18	20	91	8	132	2	1	48	52	16	10	77	11	2	436	214
3											1				1	1						
											1											
4							2	4	8	1	10	1		9	5	5		8	3		46	14
1									2		1			3	3			2			4	2
6			1		1			2	2		4	1						2			9	4
2									1									2			4	2
1											1				2							
														1								
2											3				1	1		3				2
																						1
									2		2			1							5	
											1											
2									1					1	1							
16	1		1				3		3	1	22			5	5	1	2	13	1		83	34
1											1											
3							1	1	2		1							2			4	1
8				2					4		8				2		1	2	1		13	3
7								1	2		2			2	2	1		2			26	21
2											1				1			1				
1							1		1							1						1
4								1	1	1	4			3	2		1				6	2
26					5	1	3	3	7	1	15		1	11	2		3	18		1	70	26
3	1	1						1	1	2	5							1	1		12	8
1							1		2		4			2	2			1	1		7	1
7								2	10		3				4			2			14	8
2									1						1							
1											1							1			4	2
									1													
2								1	13	1	1					1					14	13
									1													
											1										2	1
6									1	1	6			2	3		1				16	8
1				3																		
1									1		1			1								
															1							
3															1			1			1	
											2										2	
1											2											
10			1	2	1		5	4	2		8			3	7	2	1	8	3	1	35	9
1									1													
						2					1					1					9	
2									6						1						7	7
											2					1					2	2
2																					1	1
6			1						2									3			11	2
1																						
29		1		3			2		13		17			4	5	1	1	5	1		29	39

Six Year Study—November 1918-1923

CONNECTICUT	1918	1919	1920	1921	1922	1923
BIRTHS *Birth Rate*	2726 23.2	2990 24.5	2505 21.6	2671 22.6	2357 19.5	2229 18.1
MARRIAGES *Marriage Rate*	910 7.7	1523 12.5	1390 11.9	1142 9.6	1309 10.8	1291 10.5
DEATHS *Death Rate*	2566 21.8	1309 10.7	1361 11.7	1292 10.9	1346 11.2	1297 10.6
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	1265 49.2	177 13.5	187 13.7	118 9.1	154 11.4	156 12.0
DEATHS UNDER 1 YEAR *Rate per 1000 births*	291 93.8	206 72.7	247 86.7	160 56.3	131 50.4	153 60.3

*Includes: Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pul., Cerebro-Spinal Men., Poliomyelitis, Influenza.

Towns from which no report has been received, November, 1923*

BIRTHS	MARRIAGES	DEATHS
Avon	Bozrah	Franklin
Bloomfield	Burlington	Monroe
Bozrah	Canterbury	Plainville
Canterbury	Cromwell	Sherman
East Granby	Derby	Southbury
Franklin	Franklin	
Monroe	Lisbon	
Plainville	Monroe	
Prospect	North Haven	
Sherman	Plainville	
Willington	Rocky Hill	
Woodbury	Sherman	
	Willington	
	Wolcott	
	Woodbury	

*This bulletin goes to press the 5th of each month.

Sanitary Engineering

BETTER NATIVE MEAT FOR CONNECTICUT

The wise housekeeper in buying meat for her family should be interested in something more than its food value, although this is her immediate concern. She should select a clean shop and an honest butcher, and accept his products without fear that they are from diseased animals. An honest butcher gives her this assurance because he is willing to buy only meat which bears the Inspector's stamp of approval, and which has been prepared under sanitary conditions. Many butchers who sell native meat products often visit the local slaughter houses to inspect the sources of their supply, and thus know that these slaughter houses live up to the sanitary regulations of the State Department of Health. These regulations are laid down in Chapter 2 of the Sanitary Code as follows:

Sanitation—Slaughter Houses

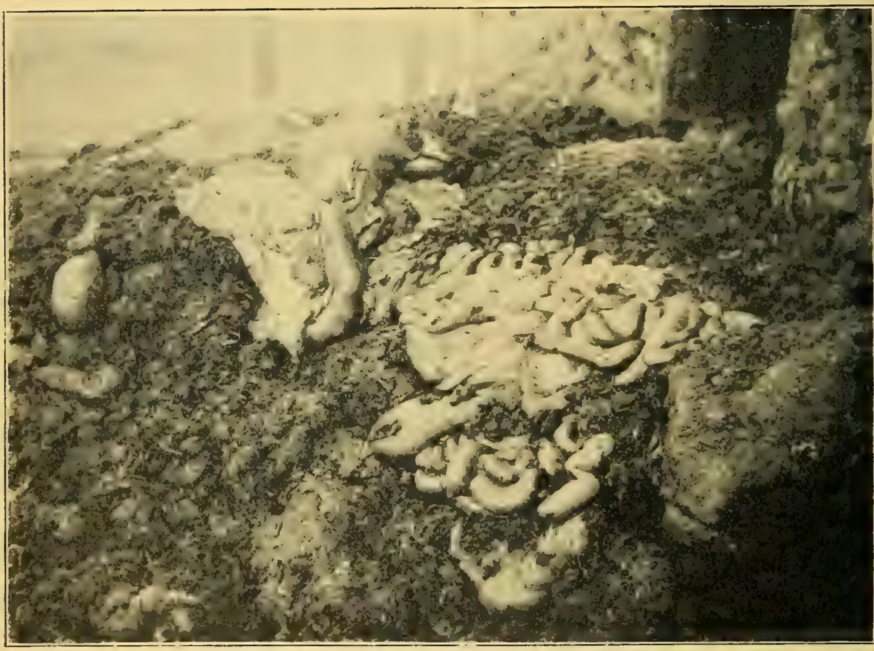
1. Every slaughter house or place where the business of slaughtering beef, poultry, or swine, or preparing the same for market, is carried on, and the implements, utensils and appliances used therein, shall at a lltimes be kept in a clean and sanitary condition.
2. No hogs shall be kept in connection with or in proximity to such slaughter house.
3. All offal, refuse and waste material shall be disposed of in a sanitary manner within twenty-four hours after slaughtering.
4. An adequate water supply, both hot and cold, must be provided and so arranged to permit a thorough washing of walls, floors and equipment of the slaughter house.
5. All hides, bones and fat must be removed within 24 hours.
6. The floors shall be of brick, cement or other hard, impervious material and properly sloped to an outlet covered with a grating, the bars for which shall be not more than ½ inch apart.
7. The walls must be covered or made to a height of 7 feet with some smooth, impervious material.
8. All rooms must be properly ventilated and well lighted.
9. Properly ventilated and refrigerated, cooling and storage rooms must be provided. These must be kept in a clean and sanitary condition. They must be screened so as to prevent the entrance of flies and insects.
10. All apparatus, containers and implements used must be thoroughly cleaned daily with boiling water, live steam or other sterilizing agent approved by the Health Officer.
11. Meat must be placed on racks, hooks, tables or in suitable containers, and shall never be placed on the floor.
12. All offal or diseased flesh fed to swine must be sterilized by cooking before feeding.
13. The location and plans for altering old slaughter houses or buildings or building new slaughter houses shall be approved in writing by the State Department of Health.

Conditions Found

So many complaints reached the Department of Health that running streams, some tributary to reservoirs, were being contaminated by slaughter house offal, and that many gross nuisances were being maintained, that the Department determined to make a survey of slaughter houses.

This survey has given first hand information about the condition under which native meat is prepared for market.

Many places were found in deplorable condition. In far too many instances the Sanitary Code was so flagrantly violated that it became necessary to order some slaughter houses to discontinue operations. In only a few instances were the slaughter houses and surrounding premises even reasonably clean.



Entrails and other offal in rear of Slaughter House

During the warm weather this filth becomes infested with maggots, flies and rats. The stench from this material is almost unbearable.

The carcasses on the fence posts are "bob" veal. They are hanging over a manure pile and exposed to flies and rats. *This meat was later condemned by the State Inspector.*

This is a picture of what was found: A room for slaughtering had been partitioned off from a cow barn which was in such poor condition as to be about ready to fall down. In the room was garbage, manure, entrails, bones, heads, hoofs, blood and other filth in various stages of putrefaction. The ground outside was littered with this refuse, and pigs and chickens were feasting on it. Flies were innumerable and the stench sickening. No running water was available and the slaughtering equipment was filthy. The owner's appearance was in keeping with the surroundings, and he was greatly incensed at the refusal of the Health Officer to grant him a license.

Filth in Rear of Slaughter House

In this case the filth had probably been allowed to accumulate two months, although prior to the inspection the proprietor said the offal was removed and plowed into the land every day.

Slaughter House Regulations Enforced

It was necessary to take somewhat drastic action to eliminate the objectionable features of the slaughter house just described. Although the proprietor was ordered to stop slaughtering in this place until he complied with the Sanitary Code, he was found slaughtering without a license. This being a violation of the law, the owner was summoned to appear before the local justice. He was found guilty and fined, but as this was his first appearance in court, no jail sentence was imposed. As the owner realized the futility of further evasion of the law he finally made the changes which transformed his cow barn into a sanitary slaughter house, and inspection has shown that he maintains it in very clean condition. In most cases however, the slaughter house proprietors co-operate willingly in making the required changes.

Objectionable conditions are being rapidly remedied, and, in a comparatively short time the slaughter houses in this state will compare favorably with those in other states. It is gratifying to report that at least six new, up to date, slaughter houses are contemplated in the near future to replace present unsuitable buildings.

In most cases there was need of complete remodeling before the slaughter house could meet the requirements of the sanitary code. In some cases it is much more difficult to remodel slaughter houses than it appears. The wooden floor boards must be ripped up and a cement floor laid. The dark inside room must be ventilated and lighted. The walls must be of some smooth permanent material which may easily be cleaned. There must be running water to keep the walls, floor and equipment clean at all times. Above all, filth in and around the slaughter house must be completely removed and not permitted to accumulate. After the changes have been made, the health officer and Inspector from the State Department of Health visits the place to make sure that the work has been properly done.

Need for Meat Inspection

Until recently, the danger from the use of uninspected meat had not been brought to the attention of the general public, but the publicity given to this work has done much to create a public demand for more extensive meat inspection. There is, indeed, great need of constant inspection to detect the slaughtering of tuberculous beef, and of stillborn, or immature, calves. Unfortunately many slaughter house operators try to sell these illegal products to the public.

In receiving an order of "roast beef rare" in the restaurant, no eye can detect the presence of tuberculosis germs. Yet that cut might have come from beef which, if inspected, would have been stamped "condemned". As served, it may still be tuberculous because it has not been sufficiently heated to kill the germs within the center of the roast. Or the beef, originally safe, may have been contaminated in the slaughter house by the use of unclean equipment.

There may also be grave danger from an order of "stuffed roast veal", as it may be a portion of that undeveloped calf, known as "bob" veal. This is said to be "more tender than chicken" and is greatly relished by certain nationalities so that there is always a ready market for it. But it is not generally known that "bob" veal may be the cause of severe attacks of diarrhoea, and is not fit for human consumption.. The Statutes require that a calf must be at least 4 weeks old, and weigh at least 55 pounds after final dressing, before it can be accepted for public sale.

Only very careful inspection will insure the destruction of illegal meat products to avoid their being sold to the public.

Condemned Meat

The carcasses on the fence posts are "bob" veal. They are hanging over a manure pile and exposed to flies and rats. *This meat was later condemned by the State Inspector.*

Safeguarding the Public

This movement for sanitary slaughter houses for Connecticut has developed state wide interest in the full enforcement of the law so that native market meat may be above suspicion.

It is just as important that our meat supply be safe as that we obtain pure water and milk and other necessities of life. This means that at all stages, particularly at the slaughter house, meat must be handled under the most sanitary conditions. The regulations of Chapter 2 of the Sanitary Code, must therefore, be strictly complied with. It is the duty of the local Health Officer and the State Department of Health to see that these measures are enforced and, where violations occur, to immediately order them corrected or, if necessary, revoke the permit to slaughter. The conditions found in some slaughter houses have been a disgrace to the State. But immediately after inspection these were ordered corrected; as a result, the slaughter houses are now in much better condition than ever before. Much work, however, still remains to be done. Violations of the Sanitary Code are covered by fines and jail sentences, and when necessary court action will be taken against habitual violations. Unquestionably it would be wise to have all meat inspected by competent inspectors, and where there are such inspectors, they should be empowered to enforce strict compliance with the Sanitary Code.

Acknowledgment is hereby made for the valuable co-operation of the Connecticut Humane Society and the services of Dr. Chas. L. Colton, their Special Agent and Consulting Veterinarian.

TWO KINDS OF IMMUNITY AGAINST DIPHTHERIA

Immunity against diphtheria is due to the presence in the blood of diphtheria antitoxin. This antitoxin may be either introduced from without or it may be manufactured within the body. Thus there are two kinds of immunity, one of which is temporary and the other is lasting.

Temporary Immunity. Persons exposed to diphtheria may be immunized by a small dose of antitoxin. This immunity is temporary and disappears in from three to eight weeks. It is produced by antitoxin that is manufactured in the body of a horse and, after proper preparation, is injected into the human body.

Lasting Immunity. When antitoxin is manufactured within the body the immunity is lasting. The body is induced to manufacture antitoxin by the presence of toxin. The substance called toxin is produced in large amounts by the germ of diphtheria during the process of growth. It is this toxin which makes diphtheria such a dangerous disease. During an attack the toxin is produced by the growth of the germs in the body. Years of experimentation have developed a method by which a small part of the toxin almost neutralized by antitoxin can be injected into the body and cause the body to manufacture antitoxin without the danger of having the disease. No germs are injected so that the toxin cannot increase as in a case of diphtheria. It is this method that is utilized in immunizing people against diphtheria. The immunity produced by the body manufacturing its own antitoxin is sometimes called active immunity to distinguish it from passive immunity resulting from the injection of antitoxin manufactured elsewhere.

Only one kind of Immunity at a time. It is highly important to remember that only one kind of immunity can be utilized at a time. In the case of persons exposed to diphtheria and immunized by injecting a small dose of antitoxin, the antitoxin injected will prevent the Schick Test from being positive if the persons are really susceptible to diphtheria and it will also prevent the toxin-antitoxin from stimulating the manufacture of antitoxin. When antitoxin has been injected, it is necessary to wait until it has disappeared from the body before using the Schick Test or toxin-antitoxin. A period of two or three months after an immunizing dose ought to suffice for this purpose.

Lasting Immunity gradual in development. On the other hand the lasting immunity resulting from the use of toxin-antitoxin develops grodually so that this method does not meet the re-

quirement of prompt immunization of persons who have been exposed to diphtheria. For such purpose the method to be employed is the injection of an immunizing dose of antitoxin. However, with our present weapons against diphtheria a new procedure is possible in cases where exposed persons can be kept under very close observation.

The new procedure. Where persons exposed to diphtheria can be kept under very close observation so as to detect without fail the first evidence of development of the disease, immunization may be carried out by using the Schick Test to determine susceptibility and toxin-antitoxin to confer immunity. This course has the advantage of conferring a lasting immunity. Exposed persons handled in this way should be under the very closest observation so that a curative dose of antitoxin may be given *immediately* should symptoms of diphtheria develop. Where the situation is such that close observation cannot be maintained, the temporary immunity conferred by injecting antitoxin may be considered safest.

Anyone can be protected against diphtheria by being immunized by toxin-antitoxin. The immunity lasts for many years.

No Connecticut child need suffer or die of diphtheria.

INCIDENCE OF PREVENTABLE DISEASES

December, 1923

A comparison of the daily morbidity reports received during the month of December, 1923, with the corresponding month for the years 1918, 1919, 1920, 1921, and 1922 is shown in the following table:

Certain Diseases	Average 1918-1922 for Dec.	Mean 1918-1922 for Dec.	Cases reported by Local Health Officers. 1918	1919	1920	1021	1922	1923
Cerebrospinal Meningitis ..	3	3	3	3	4	1	4	4
Diphtheria	417	375	259	504	575	375	370	306
Encephalitis Epidemic	(Not reportable	until 1921)			1	2	2	0
Measles	591	542	245	683	251	542	1234	886
Poliomyelitis	1	3	0	1	0	3	2	7
Scarlet Fever	442	436	187	493	683	411	436	475
Smallpox	2	2	0	5	0	3	2	1
Typhoid Fever	21	17	19	16	40	17	14	28
Tuberculosis (pul)	126	116	141	104	176	92	116	114
Whooping Cough	220	226	26	226	415	155	280	116

A comparison of the morbidity on these diseases for the two preceding months, October and November with the December record is as follows:

Certain Diseases	October	November	December
Cerebrospinal Meningitis	8	9	4
Diphtheria	203	264	306
Encephalitis Epidemic	2	2	0
Measles	241	572	886
Poliomyelitis	17	9	7
Scarlet Fever	201	343	475
Smallpox	0	2	1
Typhoid Fever	60	22	28
Tuberculosis (pul)	129	119	114
Whooping Cough	100	186	116

Cases of Other Reportable Diseases

December, 1923

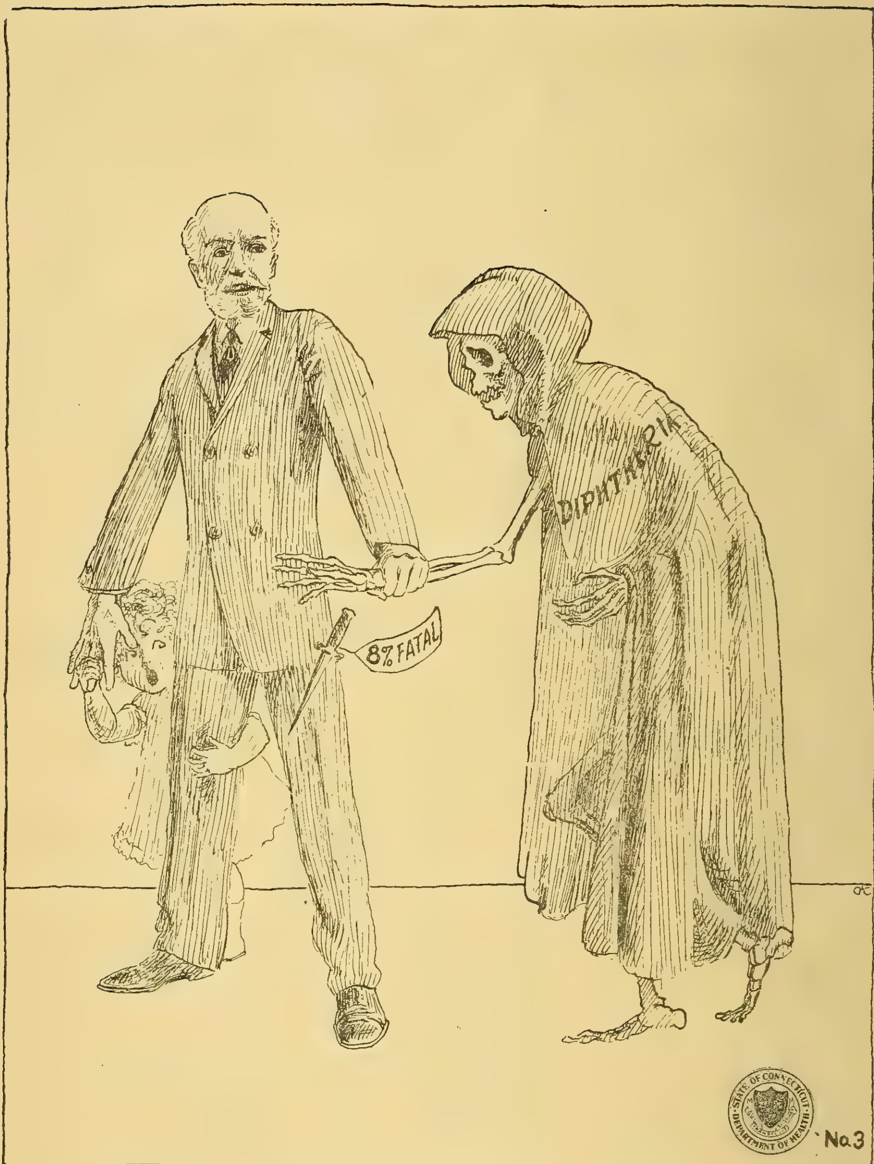
Actinomycosis	2	Smallpox	1
Chickenpox	570	Tetanus	5
German Measles	9	Trachoma	1
Influenza	19	Gonorrh ea	77
Mumps	228	Syphilis	75
Septic Sore Throat	6		
		Total	993

Cases of Certain Reportable Diseases

December, 1923	Population	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com. Diseases
State Total	1,475,122	28	886	475	116	306	4	7	114	6	96	993
NEW HAVEN CO.	**443,309**	**7**	**387**	**172**	**14**	**99**		**2**	**34**	**2**	**35**	**362**
New Haven	172,849		19	55	8	18		1	21	2	78	242
Waterbury	98,378	5	3	70	3	48		1	3		3	23
Meriden (city and town)	35,736		331	4	1	6			1		4	10
Ansonia	18,541	1		2		2			1		1	3
West Haven	16,854			17	1	9						13
Naugatuck	15,890			6		4					2	
Wallingford (town and boro)	12,317		20	4		2			2			2
Milford	12,293			5		2					1	6
Derby	12,048					2						
Hamden	9,606	1	2	5		1			4		4	35
Branford (town and boro)	6,835											
Seymour	7,500											1
Towns under 5,000	24,462		12	4	1	5			2		2	27
FAIRFIELD CO.	**348,196**	**12**	**164**	**54**	**33**	**57**		**1**	**30**		**16**	**142**
Bridgeport	158,218		3	22	8	39		1	24		9	54
Stamford (city and town)	44,002	3	7	3	7	2						21
Norwalk	28,929			2	4	3			1		2	2
Danbury (city and town)	22,081	4		9					1			
Greenwich (town and boro)	24,091	1	139	2	2	1					1	3
Stratford	14,738		1	6	2	5			2		4	7
Fairfield	13,400			3		2			1			18
Shelton	10,531		2	1	2	4						
Westport	5,421					1						1
Towns under 5,000	26,785	4	12	6	8				1			36
HARTFORD CO.	**366,974**	**2**	**136**	**137**	**55**	**116**	**2**		**37**	**1**	**32**	**280**
Hartford	152,140	1	6	75	13	52			26	1	14	142
New Britain	64,784	1		25	10	40			2		8	66
Bristol (city and town)	23,165			15	2	5	1		4		5	5
Manchester	20,074			4	1	3					1	3
Enfield	12,425		90	2	1	12			1			12
East Hartford	12,913			3								5
Southington (town and boro)	9,133		12	1					1		4	16
West Hartford	10,312		3	5	20				1			11
Windsor	6,139			2	3	1						6
Glastonbury	5,878											
Towns under 5,000	50,011		25	5	5	3	1		2			14
NEW LONDON CO.	**109,427**	**1**	**106**	**12**	**2**	**14**	**1**		**8**		**4**	**26**
Norwich (city and town)	30,152			2		9	1		3		1	1
New London	27,800			5	2				3		1	16
Stonington (town and boro)	10,607		66	2		4					1	2
Groton (town and boro)	10,211	1	2	3					1		1	2
Towns under 5,000	30,657		38			1			1			5
LITCHFIELD CO.	**78,428**	**2**		**32**	**11**	**4**		**1**			**3**	**19**
Torrington (town and boro)	23,518											
Winchester (inc. Winsted)	9,060											
Plymouth	6,220			15							1	2
Watertown	6,789			3				1				9
Towns under 5,000	32,841	2		14	11	4					2	8
WINDHAM CO.	**54,422**	**4**	**37**	**47**	**1**	**11**		**1**	**2**	**1**	**4**	**40**
Windham (inc. Willimantic)	14,142			3		2		1	1			28
Putnam (city and town)	8,779		9	17	1	1			1	1	1	4
Plainfield	8,341	1	11	1		6						
Killingly (inc. Danielson)	8,739		1	3							1	
Thompson	5,145		1	7		1					1	6
Towns under 5,000	9,276	3	15	16		1					1	2
MIDDLESEX CO.	**46,878**		**17**	**17**			**1**	**2**	**2**		**1**	**116**
Middletown (city and town)	22,420		1	4				1	1			92
Towns under 5,000	24,458		16	13			1	1	1		1	24
TOLLAND CO.	**27,488**		**39**	**4**		**5**			**1**	**2**	**1**	**8**
Vernon (inc. Rockville)	8,837					2			1			1
Stafford (town and boro)	5,438		17			2				2		5
Towns under 5,000	13,213		22	4		1					1	2

(For cases of other reportable diseases, see page 22)

NO CHILD NEED HAVE DIPHTHERIA



ANY PHYSICIAN CAN PROTECT YOUR CHILD
FROM DIPHTHERIA
IMMUNITY BY TOXIN-ANTITOXIN LASTS FOR YEARS

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

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STANLEY H. OSBORN, M. D., C. P. H., Commissioner.

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CONNECTICUT

HEALTH BULLETIN

Vol. 38 February, 1924 No. 2

Issued Monthly by the

STATE DEPARTMENT OF HEALTH

DEATHS IN CONNECTICUT—PROVISIONAL FIGURES FOR 1923

While figures for the year 1923 will be changed from time to time as delinquent and late reports are filed, it is possible to give a broad analysis of the health of the State as indicated by the experience of the past year.

The deaths number 17,700, and on the basis of an estimated population of 1,475,122 this gives a crude death rate of 12.0, the same as was experienced one year ago. It is of interest to note that the death rate of 11.4, which appeared in 1921, was the lowest ever recorded and that the rates of 1922 and 1923 are the next lowest.

It would seem that this indicates stability. For, with the constant and accumulative increment by which the population increases the deaths of 1922 could be augmented only by 264 if the rate of 12.0 was to be maintained. As a matter of fact, they were increased by 263. If we reason on analogous inference we may expect 18,028 deaths in 1924—that is, if the rate of 12.0 is to be continued the permissible increase over 17,700 is 328. This is a variation of somewhat less than 2 per cent.

We will now take up briefly some of the more important diseases. The deaths from Typhoid number 38, 5 less than 1922. This gives a death rate of 2.6 per 100,000 population as contrasted with 3.0 for 1922.

The Measles deaths number 159, an increase of 50, giving a rate for 1923 of 10.8 and 7.5 in 1922. This is a disease which might well be termed nomadic and which may fluctuate between rather wide limits from year to year.

For Scarlet Fever, 53 deaths in 1923, 9 less than 1922 when 62 were reported. The rates are 3.6 for 1923 and 4.3 for 1922.

Whooping Cough 1923, 132 deaths and a rate of 8.9; 1922, 83 deaths and rate 5.7.

Diphtheria, 1923, 187 deaths and rate 12.7; 1922, 186 deaths, rate 12.8.

Influenza, 1923, 561 deaths, rate 38.0; 1922, 518 deaths, rate 35.8.

Tuberculosis, Pulmonary, 1923, 1,163 deaths, rate 78.8; 1922 1,202 deaths, rate 83.0.

Tuberculosis, Other forms, 1923, 151 deaths, rate 10.3; 1922, 140 deaths, rate 9.7.

Pneumonia, All forms, 1923, 1,879 deaths, rate 127.4; 1922, 1,764 deaths, rate 121.8.

Cancer, 1923, 1,448 deaths, rate 98.2; 1922, 1,510 deaths, rate 104.2.

Poliomyelitis, 1923, 10 deaths, rate 0.7; 1922, 16 deaths, rate 1.1.

Diarrhoea and Enteritis (Under 2), 1923, 314 deaths, rate 21.3; 1922, 416 deaths, rate 28.7.

Puerperal State, 1923, 179 deaths, rate 12.1; 1922, 176 deaths rate 12.2.

Suicide, 1923, 195 deaths, rate 13.2; 1922, 170 deaths, rate 11.7.

Accident, 1923, 1,049 deaths, rate 71.1; 1922, 1,025 deaths rate, 70.8.

Homicide, 1923, 44 deaths, rate 3.0; 1922, 42 deaths, rate 2.9.

Cerebrospinal Meningitis, 1923, 45 deaths, rate 3.1; 1922, 45 deaths, rate 3.2.

The Infant Mortality rate is 77.1 per 1,000 living births. This is the same rate as held in 1922.

Births

Year	Number	Rate
1919	34,005	23.2
1920	34,184	24.5
1921	34,178	24.1
1922	31,268	21.6
1923	30,446	20.6

Such are the actual figures. The question may be asked "If 1921 was such a favorable year, what caused this trend?" Referring back to 1921, it will be noted that in comparison with 1920 there were nearly 700 less infant deaths, about 1,100 less deaths from Influenza, and 700 less Pneumonia deaths.

In view of the fact that Influenza and the Pneumonias increased greatly in 1923 over 1921 it may with some degree of certainty be reasoned that if the state experiences low mortality from these diseases in the first few months of any year, then the year as a whole will be favorable.

The figures which seem to stand out most prominently in the Provisional Summary are those for Diarrhoea and Enteritis (Under 2). These have steadily decreased since 1919. The chief cause of this decrease is Education of Mothers in the proper feeding and care of their babies.

The deaths from the Puerperal State run fairly constant. Only by more intensive methods of reaching and educating expectant mothers may these be further reduced. They are still far above the irreducible minimum, but it is encouraging to note that they are not increasing.

DEATHS IN CONNECTICUT 1919-1923 as of January 31, 1924

PROVISIONAL SUMMARY FOR 5 YEARS — BUREAU OF VITAL STATISTICS

Year	Total Deaths	Death Rate	Deaths Under 1	Death Rate Per 1,000 Births	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis (Pulmonary)	Tuberculosis (Other Forms)	Pneumonia (All Forms)	Cancer	Poliomyelitis	Diarrhoea and Enteritis (Under 2)	Puerperal State	Suicide	Accident	Homicide	Cerebrospinal Meningitis
1919*	18,253	12.4	2,928	86.1	56	100	46	58	253	1,583	1,485	222	1,632	1,288	10	649	198	198	1,016	52	45
1920	18,923	13.6	3,144	92.0	58	137	74	218	235	1,254	1,441	210	2,084	1,390	23	719	194	153	1,023	51	63
1921	16,168	11.4	2,489	72.8	49	43	102	137	176	193	1,186	172	1,382	1,380	25	473	178	203	983	42	47
1922	17,437	12.0	2,410	77.1	43	109	62	83	186	518	1,202	140	1,764	1,510	16	416	176	170	1,025	42	45
1923	17,700	12.0	2,348	77.1	38	159	53	132	187	561	1,163	151	1,879	1,448	10	314	179	195	1,049	44	45

*Rates for 1919 Figured on School Census; For other Years, U.S. Census.

MONTH OF DECEMBER, 1923

Births

The births registered through the month numbered 2,336. Compared with last year this is a decrease of 84, and this fact might be viewed calmly were it not true that 1922 was 343 below 1921, and that 1921 was, roughly, an average year. As a matter of fact, 1923 is 386 below the average for 1918-1922, which average is 2,722.

Twenty one towns over 5,000 in population reported more births for 1923 than in 1922, and the following towns reported increases of 10 or more, the figures immediately after the town indicating the actual increase: Enfield 11; Naugatuck 10; New Haven 53; New London 15; Putnam 15; Stamford 13; West Haven 12.

Ninety still births were reported as compared with 107 one year ago, a decrease of 17. These 90 still births constitute 3.71 per cent of the combined living and still births. A year ago the percentage figures were 4.37.

Deaths

The deaths for December numbered 1,385, which is the lowest number to appear in the past six years, being lower by 40 than the very favorable year of 1921, and 233 less than 1922. The average number of deaths for the 5 year period 1918-1922 is 1,689. It therefore follows that 1923 is 304 below this average. It should be noted that this average is weighted to some extent with the unfavorable influenza epidemic of 1918.

With respect to certain diseases the following table has been prepared.

CAUSES OF DEATH	1923	1922	INCREASE	DECREASE
Diseases of the Heart	182	134	48	....
Encephalitis Epidemic	2	0	2	....
Pneumonia Undefined	5	7	....	2
Typhoid Fever	1	2	....	1
Measles	8	16	....	8
Scarlet Fever	7	9	....	2
Whooping Cough	2	3	....	1
Diphtheria	28	23	5	....
Influenza	21	27	....	6
Tuberculosis, (Pulmonary)	99	100	....	1
Tuberculosis (Other Forms)	13	11	2	....
Cancer	124	122	2	....
Cerebrospinal Meningitis	2	2	....	....
Poliomyelitis	0	1	....	1
Pneumonia, (Lobar)	69	96	....	27
Pneumonia, (Broncho)	74	100	....	26
Diarrhoea and Enteritis, (Under 2)	16	17	....	1
Puerperal Diseases	15	10	5	....
Accident	87	97	....	10
Suicide	14	6	8	....
Homicide	4	1	3	....
Other Causes	612	834	....	222
Totals	1,385	1,618	75	308

Encouraging decreases will be noted for the Pneumonias and Accident. Of the Accidental deaths 24 were due to automobile accidents as compared with 21 in 1922.

Infant Mortality

There were 168 deaths of infants under one year, a decrease of 43 over 1922 when 211 were noted. This gives an infant mortality rate of 66.2.

Marriages

The marriages numbered 768 an increase of 35 over the 733 reported in 1922. The average number of marriages is 743, indicating that for 1923 the figures are 25 above the average.

Six Year Study—December 1918-1923

CONNECTICUT	1918	1919	1920	1921	1922	1923
BIRTHS *Birth Rate*	2764 23.5	3010 24.7	2651 22.8	2763 23.3	2420 20.1	2336 19.0
MARRIAGES *Marriage Rate*	614 5.2	8 45 6.9	806 6.9	715 6.0	733 6.1	768 6.2
DEATHS *Death Rate*	2420 20.6	1538 12.6	1446 12.5	1425 12.0	1618 13.4	1385 11.3
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	1006 41.6	189 12.3	177 12.2	139 9.8	189 11.7	168 12.1
DEATHS UNDER 1 YEAR *Rate per 1000 births*	279 89.9	226 79.6	221 77.6	180 63.3	211 81.1	168 66.2

*Includes: Typhoid Fever, Measles, Scarlet Fever, Whooping Cough. Diphtheria. Tuberculosis Pul., Cerebro-Spinal Men., Poliomyelitis, Influenza.

Towns from which no report has been received

December, 1923

BIRTHS	MARRIAGES	DEATHS
Bozrah	Derby	Franklin
Canterbury	Franklin	
Eastford	Killingworth	
Franklin	Litchfield	
Waterford	Newington	
	Plainville	
	Waterford	

Births, Marriages and Deaths

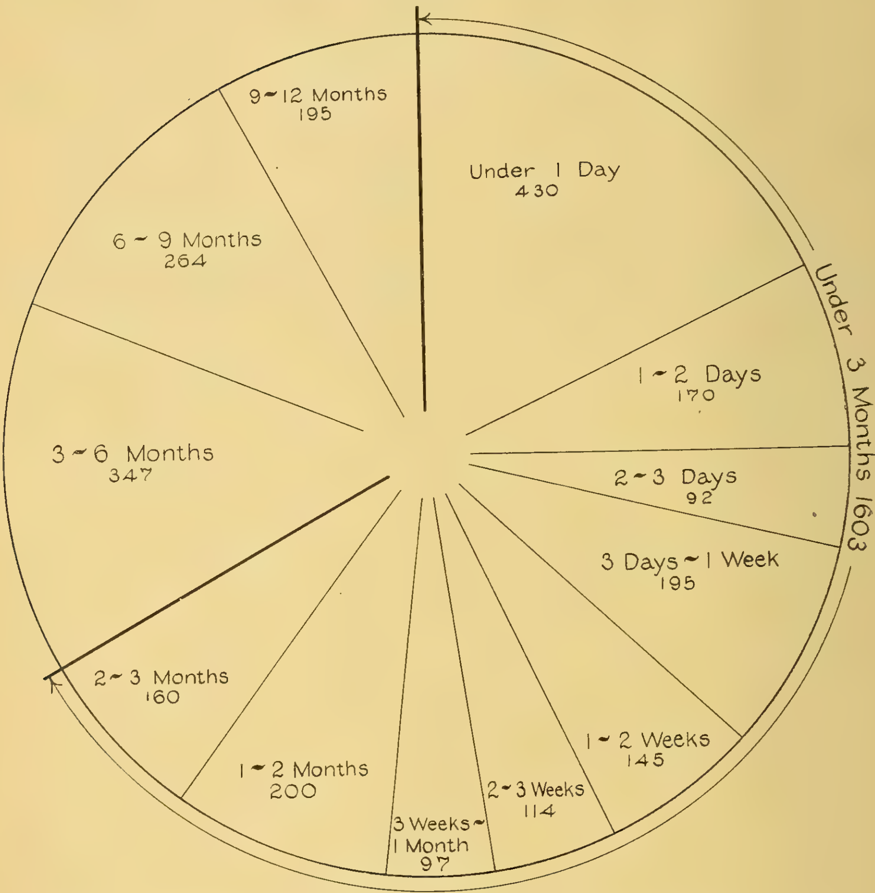
December Statistics 1923	Population Based on U S Census Est. as of July 1, 1923	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Still Births	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,475,122	2336	90	768	1385	11.3	0.8	66.2	168	72	466
Ansonia	18,541	25	2	7	13	8.4		30.0	1		4
Branford	6,835	1		3	3	5.3				1	
Bridgeport	158,218	249	9	72	127	9.6	0.9	80.7	23	9	32
Bristol	23,165	41	4	8	21	10.9	1.0	83.3	4	3	5
Danbury	22,081	35		6	23	12.5	1.1	43.3	2	1	10
Derby	12,048	40	4		17	16.9		54.1	2		5
East Hartford	12,913	12	1	6	11	10.2	0.9	137.9	2	1	4
Enfield	12,425	24	2	17	12	11.6	1.0	241.6	6	2	1
Fairfield	13,400	9	1	7	5	4.5		53.3	1		1
Glastonbury	5,878	5		2	1	2.0	2.0				
Greenwich	24,091	26	2	44	32	15.9	1.0			5	12
Groton	10,211	9		5	9	10.6	2.4	225.0	3		3
Hamden	9,606	15		2	7	8.7	1.2			1	1
Hartford	152,110	295	10	100	14[illegible]	11.[illegible]	[illegible]	[illegible]	19	5	35
Killingly	8,739	13		13	2	2.7					
Manchester	20,074	27		7	12	7.2	0.6	26.8	1		5
Meriden	35,736	54	2	11	44	14.8	1.0	77.7	5	1	12
Middletown	22,420	47	1	5	37	19.8	1.1	59.6	3		19
Milford	12,293	5		4	5	4.9					3
Naugatuck	15,890	17		4	12	9.1	2.3	118.8	2	1	4
New Britain	64,784	143	8	32	52	9.6	0.4	97.6	13	6	7
New Haven	172,849	323	10	100	175	12.1	0.8	60.8	20	6	49
New London	27,800	62	1	26	27	11.7	0.9	123.7	7	1	5
Norwalk	28,929	49		22	29	12.0	2.5	19.6	1	1	9
Norwich	30,152	64	1	14	52	20.7	2.8	96.0	6	5	17
Plainfield	8,341	16		3	10	14.4		71.9	1	1	5
Plymouth	6,220	6		1	3	5.8					2
Putnam	8,779	27	2	6	10	13.7		61.2	1		2
Seymour	7,500	10		2	3	4.8					3
Shelton	10,531	16	1	1	11	12.5				1	3
Southington	9,133	9	1	5	5	6.6					3
Stafford	5,438	10		3	5	11.0	4.4				2
Stamford	44,002	96	1	46	46	12.5	0.5	89.1	8	1	13
Stonington	10,607	7		4	11	12.4	1.1	67.7	1	1	6
Stratford	14,738	18	1	6	12	9.8	0.8	44.8	1	1	4
Thompson	5,145	11		1							
Torrington	23,518	28		11	10	5.1		24.8	1	1	4
Vernon	8,837	9		6	9	12.2					5
Wallingford	12,317	10	1	2	12	11.7	1.0				9
Waterbury	93,378	166	10	36	88	10.7	0.4	62.2	12	9	25
Watertown	6,789	8		4	5	8.8		116.5	1		3
West Hartford	10,312	9		5	15	17.5		203.4	3	1	4
West Haven	16,854	33		5	23	16.4	1.4				8
Westport	5,421	2		2	8	17.7		164.3	1		1
Winchester	9,060	19	3	4	13	17.2	1.3				8
Windham	14,142	26	2	6	12	10.2		95.7	3		6
Windsor	6,139	5		1	3	5.9	2.0				2
Towns under 5,000	211,703	205	10	91	199	11.3	0.3	54.0	14	7	105

for the month of December, 1923

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis—Pulmonary	Tuberculosis—Other Forms	Cancer	Meningitis—Cerebro-Spinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea and Enteritis under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
182	2	5	1	8	7	2	28	21	99	13	124	2	......	69	74	16	15	87	14	4	451	231
3											1			1				1	1			
1											1				1							
15							2	2	9		14			4	12		1	8	1		49	12
2									1	1	1			1	2			1			5	2
3								2	1	1	3				1			1			4	3
4							1				2			2			1	1			8	7
2											3				1			1		1		
				1			2		1		1				2	1						
1														1								
1																						
5		1		4					2	1	7				1			3			9	6
2									2												1	
3									1					1		1		1				1
12		1	1				2		16	2	8			8	6	3	6	11	2	1	89	38
														1								
3								2	1		1										2	1
5				2			1		3		5			5	1				1		8	1
4	1								3		2			2	4						26	21
1																						
3							1		2		1			2	2							
5						1		2	2		1			4	3	1		5	1	1	6	
29		1			1		5	2	8	2	19			16	8	2	1	11	1		69	16
4								1	1		6					2		1			12	5
1							1	1	5		1			3				4			4	1
2		1					3	4	6		2	1		2	4		1	2	1		21	13
1							1				2				1			2				
1	1			1							2				1		1				4	4
											1											
1									6		1			1	1						6	6
1																		2				
									1	2											1	1
2										1	5			1	4			7	1		23	5
							1		1		1				2			2				
4					1				1													
1											2					1		1	1		1	1
2											2										2	1
4							1				1			1							4	
7		1			2	1	5	4	2	2	7			5	4	1	3	3			32	16
											1							2				
1															1	2					9	2
2									11		1			1	2			2			10	12
2																1					4	4
1									1						3			1			3	1
2											2				1			1			2	1
1									1						1						2	1
38					3		2	1	11	1	16	1		7	5	1	1	13	4	1	35	49

INFANT MORTALITY, 1922.



CONNECTICUT INFANT MORTALITY

Ratio of certain age groups to total deaths under one year of age

1922

On page 35 figures are given for the Infant Mortality of 1922, setting forth the age at death for certain diseases. Analysing the results it appears that 17.8% of the total deaths occurred before the age of one day had been attained; 36.8% died within one week; 51.6% died in less than one month and 80.9% of the deaths occurred during the first six months of life.

INFANT MORTALITY IN CONNECTICUT—1922

	Under 1 Day	*1-2 Days	2-3 Days	†3 Days to 1 Week	Total Under 1 Week	1-2 Weeks	2-3 Weeks	3 Weeks to 1 Month	Total Under 1 Month	1-2 Months	2-3 Months	3-6 Months	Total Under 6 Months	6-9 Months	9-12 Months	Total under 1 Year
Totals	430	170	92	195	887	145	114	97	1243	200	160	347	1950	264	195	2409
Measles	—	—	—	—	—	—	—	1	1	1	—	1	3	11	12	26
Scarlet Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Whooping Cough	—	—	—	—	—	—	—	2	2	5	4	14	25	10	9	44
Diphtheria	—	—	—	—	—	—	1	—	1	—	—	—	1	2	5	8
Influenza	1	—	—	2	3	—	6	1	10	6	7	15	38	12	13	63
Dysentery	—	—	—	—	—	—	—	—	—	—	1	—	1	1	—	2
Erysipelas	—	—	—	1	1	—	—	1	2	4	3	—	9	2	—	11
Tetanus'	—	—	—	1	1	—	—	—	1	—	—	—	1	—	—	1
Tuberculosis	—	—	—	—	—	—	—	—	—	—	—	3	3	4	4	11
Smallpox	—	—	—	—	—	1	—	—	1	—	—	—	1	—	—	1
Tuberculosis Meningitis	—	—	—	—	—	—	—	—	—	—	2	11	13	6	7	26
Tuberculosis, Other Forms	—	—	—	—	—	—	—	—	—	—	1	1	2	1	1	4
Syphilis	2	1	—	4	7	3	2	2	14	1	1	3	19	—	2	21
Simple Meningitis	—	—	—	3	3	2	1	2	8	2	3	6	19	4	3	26
Cerebrospinal Fever	—	—	—	—	—	1	—	—	1	2	—	—	3	2	3	8
Convulsions	2	—	2	2	6	2	1	—	9	5	2	3	19	1	1	21
Organic Diseases, Heart	—	—	—	1	1	—	—	—	1	—	—	2	3	—	—	3
Acute Bronchitis	—	—	—	1	1	2	2	6	11	7	8	13	39	6	2	47
Broncho Pneumonia	—	—	3	7	10	16	10	16	52	32	30	71	185	67	45	297
Lobar Pneumonia	—	—	1	1	2	4	4	1	11	4	7	19	41	15	16	72
Diseases, Stomach	—	—	—	2	2	2	—	—	4	5	2	6	17	1	1	19
Diarrhoea & Enteritis	—	—	—	7	7	8	13	13	41	50	38	106	235	77	42	354
Malformation	33	15	19	37	104	11	15	7	137	13	9	19	178	5	4	187
Congenital Debil.	13	5	4	18	40	15	14	13	82	25	20	20	147	4	3	154
Premature Birth	252	95	34	40	421	51	21	17	510	19	8	6	543	1	—	544
Injury at Birth	83	29	10	22	144	7	3	—	154	2	—	—	156	1	—	157
Early Infancy	31	17	12	35	95	10	12	6	123	2	2	—	127	—	—	127
Ill defined	4	—	—	—	4	—	—	1	5	—	—	—	5	2	1	8
All Other Causes	9	8	7	11	35	10	9	8	62	15	12	28	117	28	21	166

*1-2 Days, but not including 2 days.
†3 Days-1 Week, but not including 1 week, etc.

Of the 430 deaths of individuals who died during the first day of life, 252, or 58.6% of the total 430, were caused by Premature Birth. Malformation, Congenital Debility, Premature Birth, Injury at Birth and Early Infancy contributed 412 deaths or 95.8% of the total 430.

When we analyse those who died during the first week of life, we find that the total is 887, or 36.8% of the total deaths, 2409, for the year. By this time other diseases have begun to manifest themselves. Influenza, Broncho Pneumonia, Bronchitis, Lobar Pneumonia, Diarrhoea and Enteritis, all of which are to take their parts in the ensuing tragedy, have appeared on the stage.

Those who died during the first month of life numbered 1,243 out of the total 2,409. This is 51.6% of the total. Using as a base the number of those who died under one week Bronchitis has by this time increased 1,000 per cent, Broncho Pneumonia by 400 per cent, Lobar Pneumonia by 500 per cent, Diarrhoea and Enteritis by 500 per cent.

Coming now to those who died within the first six months of life, we find that 1,950 or 80.9% of the total 2,409 died of some disease given in the table with the single exception of Scarlet Fever. Again using as a base the number of deaths occurring under one week, the following percentage increases are noted; Influenza 1200 per cent; Simple meningitis 500 per cent;Convulsions 200 per cent; Acute Bronchitis 3800 per cent; Broncho Pneumonia 1750 per cent; Lobar Pneumonia 800 per cent; Disease of the stomach 700 per cent; Diarrhoea and Enteritis 3200 per cent. These percentages are indeed startling. Even assuming that the base figures are small, with percentage increases of 3800 per cent, 3200 per cent and 1750 per cent, Acute Bronchitis, Diarrhoea and Enteritis, and Broncho Pneumonia pay heavily in dividends of death.

We now arrive at the end of the year. Is it necessary that the following diseases should have caused the deaths charged to them?

Measles	26	Smallpox	1
Scarlet Fever	1	Convulsions	21
Whooping Cough	44	Acute Bronchitis	47
Diphtheria	8	Broncho Pneumonia	297
Influenza	63	Lobar Pneumonia	72
Dysentery	2	Diseases of the stomach	19
Erysipelas	11	Diarrhoea and Enteritis	354
	155		811

Most of the Diseases in this list are Preventable Diseases, and it is **not** necessary for children to contract them. They can be prevented by avoiding exposure or contact with others who have them. Proper feeding and proper clothing of infants will eliminate the others to a great extent.

As a subordinate list the following may be prepared:

Malformation	187
Congenital Debility	154
Premature Birth	544
Injury at Birth	157
Early Infancy	127
	1,169

Many of these deaths could be prevented by proper prenatal care, which is especially true of the largest item above, Premature Birth.

So much for the broad interpretation of the figures. From them it is possible to deduce the following, making the assumption that those who died under one day of age lived ½ a day, those who died under 2 days lived 1½ days, etc: The average life of children who died in the first six months of life was 38.7 days; the average life of children who died in the first year of life was 81.5 days.

There is only one way to lower the deaths of infants—by education. The mother who sees the doctor early in her expectancy and follows his advice faithfully is accepting the the responsibility nature has honored her with. She need have no fear.

The mother who watches her child after it is born, guards it jealously through early infancy, feeds it properly and clothes it comfortably and warmly will be rewarded for the hours and days during which she made the sacrifices of the inspired. The tiny voice need not be hushed forever after 39 or 82 days.

This Department distributes literature for the Expectant Mother and on the subject of Infant Care. They will be sent to any address upon notifying the State Department of Health.

Laboratories

JOHN JONES HAS DIPHTHERIA

John Jones, age 6, has a sore throat. He has difficulty in swallowing; he appears to be feverish; his head aches; he has lost all ambition to play with his Christmas toys. His mother, much alarmed, puts him to bed and sends for a doctor.

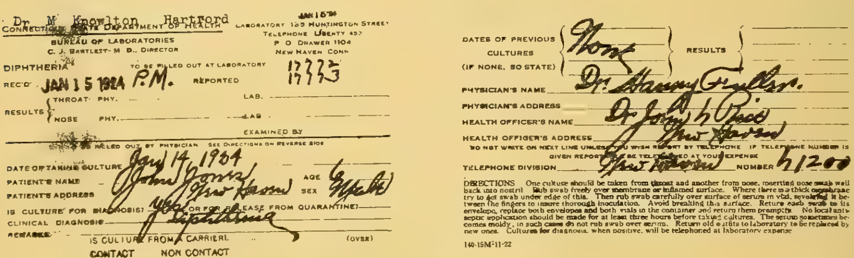
When the doctor arrives the symptoms shown make him suspicious of diphtheria. He takes the immediate precaution of having the child isolated to avoid the spread of the disease should it prove to be diphtheria. He also gives the child 10,000 units of diphtheria antitoxin to be on the safe side.

The doctor realizes there must be no delay in definitely diagnosing the disease—so he makes a nose and throat swab and sends these, together with a culture from each, to the Bureau of Laboratories of the State Department of Health for verification.

We are now privileged to look behind the scenes at the laboratory at New Haven and watch the procedure for indentifying diphtheria germs.

Receiving and Stamping the Specimens

When the specimen is received from the doctor in attendance on John Jones—it is opened very carefully by the receiving clerk. Uncle Sam protects the public from the spread of disease by requiring all specimens to be sent through the mail in double containers. The inner tube contains the two small vials, or throat and nose cultures, which have been made by the doctor from the throat and nose swabs provided in his outfit, and the swabs which are returned in their respective envelopes. Around the inner tube is the card which bears John Jones' name and address and the name of the attending physician and local Health Officer. This card is shown in Figures 1 and 2.


Dr. M. Knowlton Hartford
CONNECTICUT STATE DEPARTMENT OF HEALTH
BUREAU OF LABORATORIES
C. J. BARTLETT, M. D., DIRECTOR
LABORATORY 185 HUNTINGTON STREET
TELEPHONE LIBERTY 453
P. O. DRAWER 1104
NEW HAVEN, CONN.
JAN 15
DIPHTHERIA
TO BE FILLED OUT AT LABORATORY
17773
REC'D JAN 15 1924 P.M. REPORTED
RESULTS THROAT PHY. LAB.
NOSE PHY. LAB.
EXAMINED BY
TO BE FILLED OUT BY PHYSICIAN. SEE DIRECTIONS ON REVERSE SIDE
DATE OF TAKING CULTURE Jan 14, 1924
PATIENT'S NAME John Jones AGE 6
PATIENT'S ADDRESS New Haven SEX Male
IS CULTURE FOR DIAGNOSIS? Yes OR FOR RELEASE FROM QUARANTINE?
CLINICAL DIAGNOSIS Diphtheria
REMARKS
IS CULTURE FROM A CARRIER?
CONTACT NON CONTACT
(OVER)

DATES OF PREVIOUS CULTURES (IF NONE, SO STATE) None RESULTS
PHYSICIAN'S NAME
PHYSICIAN'S ADDRESS
HEALTH OFFICER'S NAME
HEALTH OFFICER'S ADDRESS New Haven
DO NOT WRITE ON NEXT LINE UNLESS YOU WISH REPORT BY TELEPHONE. IF TELEPHONE NUMBER IS GIVEN REPORT WILL BE TELEPHONED AT YOUR EXPENSE
TELEPHONE DIVISION New Haven NUMBER
DIRECTIONS One culture should be taken from throat and another from nose, inserting nose swab well back into nostril. Rub swab freely over membrane or inflamed surface. Where there is a thick membrane try to get swab under edge of this. Then rub swab carefully over surface of serum in vial, revolving it between the fingers to insure thorough inoculation. Avoid breaking this surface. Return each swab to its envelope, replace both envelopes and both vials in the container and return them promptly. No local antiseptic application should be made for at least three hours before taking cultures. The serum sometimes becomes moldy, in such cases do not rub swab over serum. Return old outfits to laboratory to be replaced by new ones. Cultures for diagnosis, when positive, will be telephoned at laboratory expense.
140-15M-11-22

Figures 1 and 2, both sides of the card received with the specimens

When all the K. L.'s or Diphtheria containers are opened and the contents of each placed on the table, the throat and nose swabs and vials on top of each card, John Jones' card is among them. These cards are next numbered consecutively with a numbering machine, each card being stamped with two numbers, the first of which is transferred to the throat vial and the second to the nose vial.

Figure 3 shows receiving clerk stamping the specimens

Figure 4 shows the making of duplicate cultures

Figure 3 shows the receiving clerk so stamping the morning consignment, the mailing tubes having been opened and contents of inner tubes removed. The larger mailing tube is for carrier cultures. This contains eight culture tubes which have been made by the physician, one culture each from throat and nose from any suspected carrier or person who has been in contact with a diphtheria patient. At the left is shown the supply of sterile culture tubes which form the nert step in the procedure, as shown in Figure 4.

Preparing Cultures for Incubation

Figure 4 shows the receiving clerk making the throat and nose cultures from the swabs—thus duplicating the cultures sent in by the physician in the small vials. These throat and nose tubes are marked to correspond with the card numbers and the orginal culture tubes. They are now placed in the rack at the left—the nose and throat vials first and the duplicate cultures next. No duplicates are made from the carrier cultures.

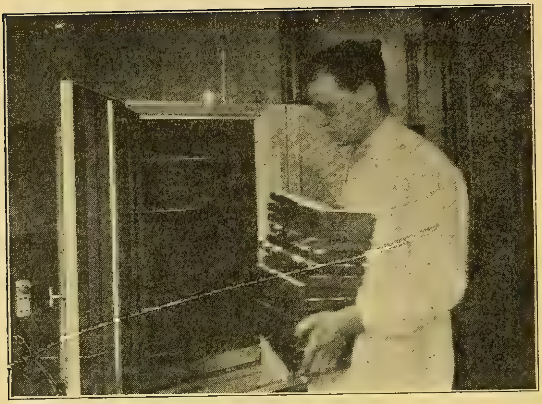


Figure 5 Diphtheria cultures ready for incubation

Figure 5 shows the incubator ready to receive the morning supply of cultures. Within the tubes is the blood serum medium on which the diphtheria bacilli will grow and multiply when stored under favorable conditions. The temperature in the incubator is automatically held at 98-99°F., or body temperature by means of an electric regulator which closes or opens the circuit as needed. This is seen at the left of the thermometer on top of the incubator. After incubation for 12-24 hours at this temperature, the culture tubes have a surface bacterial growth, a small portion of which is transferred to glass slides. These are known as smears.

Preparing the Slides

Figure 6 Making diphtheria smears

Figure 6 shows a "close up" of this, with each slide marked to correspond to the culture tube and in sections to receive smears from nose and throat cultures, and the duplicates of each. After

making the smears they are "fixed" on the slide by heat from a water bath where they are placed for a few minutes. They are now ready for staining.

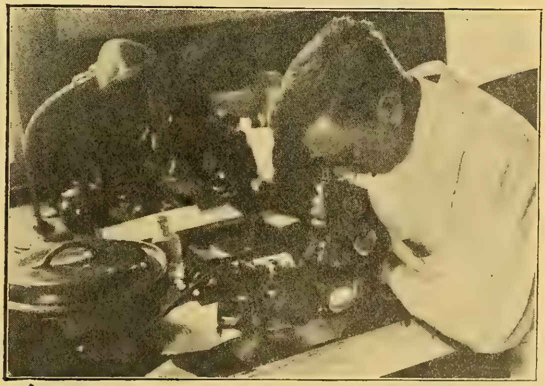
Figure 7 Making and staining diphtheria smears

The worker in the rear is shown covering the smears with the special stain which is used to demonstrate the characteristic appearance of the diphtheria bacilli. After staining from 3-5 minutes the slides are rinsed with water and dried over the water bath.

Examination Under the Microscope

They are now ready for examination under the microscope. This is shown in Figure 8. At the left of the examiner is seen the tray of diphtheria slides with stained smears which have been prepared as described.

Figure 8 Examining diphtheria slides under the microscope



Now the real search begins. Under high magnification the field may reveal many forms, but unless there is present the special forms which distinguish diphtheria bacilli from all others and which the staining method makes prominent, a negative report must be stamped on the card, which has followed each step of the procedure.

John Jones' card is waiting while the search is made. It is a diligent search—each section of the slide is brought into the field of the miscroscope, and when finally the smears from the throat cultures show the characteristic forms, the card is marked positive at this place. There is no doubt about this decision—for the diphtheria bacilli appear in the smears made from the culture sent in by the physician as well as that made in the Laboratory. There is no evidence of the diphtheria bacilli in either of the nose cultures so these are marked negative on the card. Figure 9 shows the diphtheria bacilli with their characteristic beaded-striated, and granular forms.

Making the Report

Figure 10 shows the final report, a copy of which is mailed to the attending physician and, if positive, a copy is also sent to the Health Officer. The original is filed at the Laboratory. When the cultures are found to be positive, no time must be lost in reaching the physician. So the doctor attending John Jones is informed by telephone that a positive report is returned for his patient, thus confirming his clinical diagnosis. Prompt service at this point enables the doctor to pursue his treatment for diphtheria and to keep other cases from developing by adopting such preventive measures as immunizing with antitoxin all members of the family who may have come in contact with the patient.

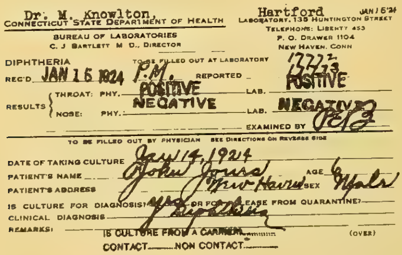

Dr. M. Knowlton, Hartford JAN 16'24
CONNECTICUT STATE DEPARTMENT OF HEALTH
BUREAU OF LABORATORIES
C. J. BARTLETT M. D., DIRECTOR
LABORATORY, 135 HUNTINGTON STREET
TELEPHONE: LIBERTY 453
P. O. DRAWER 1104
NEW HAVEN, CONN
DIPHTHERIA — TO BE FILLED OUT AT LABORATORY — 17772 17773
REC'D JAN 15 1924 P.M. REPORTED
RESULTS THROAT: PHY. POSITIVE LAB. POSITIVE
RESULTS NOSE: PHY. NEGATIVE LAB. NEGATIVE
EXAMINED BY
TO BE FILLED OUT BY PHYSICIAN — SEE DIRECTIONS ON REVERSE SIDE
DATE OF TAKING CULTURE Jan 14, 1924
PATIENT'S NAME John Jones AGE 6
PATIENT'S ADDRESS New Haven SEX Male
IS CULTURE FOR DIAGNOSIS? Yes OR FOR RELEASE FROM QUARANTINE?
CLINICAL DIAGNOSIS Diphtheria
REMARKS:
IS CULTURE FROM A CARRIER
CONTACT NON CONTACT
(OVER)

Figure 10 Final Report

The Outfits

During the course of the disease John Jones has been isolated and his family quarantined. When the attending physician notes definite signs of recovery—he again takes nose and throat cultures and sends them to the laboratory for examination. Should no diphtheria bacilli be found this report is marked negative and must be followed not less than 24 hours later by another culture. If this is negative, John Jones is no longer a menace. The two negative reports are sent to the attending physician as well as the Health Officer who officially releases John Jones from quarantine.

An active case of diphtheria may develop thru contact with one or more carriers. A carrier is one who may harbor diphtheria germs without himself developing the disease. Such a person may be the cause of a series of active cases. As there is no distinguishing sign to reveal carriers—nose and throat swabs are made from individuals, or from groups of people who have come in contact with an active case, in order to locate the source of infection. The value of the laboratory diagnosis in such instances cannot be overestimated.

Figure 11 Carrier outfit.

Figure 11 shows the carrier outfit which is sent to the Health Officer to be used in schools, or other groups, where cultures must be taken in large numbers to locate diphtheria carriers.

Figure 12 Individual outfit

Figure 12 shows the individual outfit which is sent to the Health Officer and which, when returned to the laboratory for diagnosis, is automatically replaced by a new outfit.

During the months of November, December and January, 1831 cultures were examined for diagnosis of which 261 were positive. 1028 were examined for release, of which 164 still showed the presence of diphtheria bacilli. Also 3641 cultures were examined for diagnosis of carriers of which 399 showed diphtheria bacilli present. 1187 were examined for release of carriers of which 187 still showed diphtheria bacilli present.

By locating the carriers, the Laboratory has an important part to play in diphtheria prevention in the state.

Report for January, 1924

DIAGNOSTIC DIVISION

	+	—	?	Total
Typhoid	4	28	1	33
Paratyphoid A	....	15	1	16
Paratyphoid B	2	27	4	33
Diphtheria:				1,301
Diagnosis	88	743	....	
Release	82	388	....	
Diphtheria Carriers:				1,117
Diagnosis	57	964	....	
Release	12	84	....	
Diphtheria Virulence	6	30	....	36
Tuberculosis	15	94	....	109
Syphilis	218	1,276	99	1,593
Colloidal Test on Spinal Fluids	3	6	....	9
Gonorrhoea	15	49	....	64
Glanders	....	....	....	....
Pneumonia:		....		1
Type I	....			
Type II	....			
Type III	....			
Type IV	1			
Malaria	....	....	....	....
Rabies	....	2	....	2
Feces for Typhoid	....	15	....	15
Urine for Typhoid	....	11	....	11
Feces for Ameba	....	1	....	1
Special	....	3	....	3
Totals	503	3,736	105	4,344

CHEMICAL DIVISION

Milk Examination

Number of towns sending samples	14
Number of samples tested	183
Number of samples below fat standard	2
Number of samples showing low refractive index, indicating watering	0

Water Examination

Number of towns sending samples	45
Samples of water examined	121
Samples of sewage examined	0
Total number of samples examined in the division of chemistry during the month of January, 1924	304

CLINICAL THERMOMETERS TESTED

Number of thermometers passing test	219
Number of thermometers rejected	29
Total Number of thermometers tested	248
Number of thermometers certified	133

Sanitary Engineering

CESSPOOLS vs. SEWERS

The use of cesspools for the disposal of house sewage is quite general throughout the small communities of Connecticut. Except where conditions are unusually favorable, they are for the most part, in very poor condition. Efforts to have them replaced by a proper sewerage system are met with protests that the cost is prohibitive.

A city of about 30,000 population with an ample supply of water, but entirely dependent on cesspools for the disposal of domestic sewage, had been having considerable trouble from the cesspools overflowing. A firm of engineers was engaged to advise them whether to build more cesspools or install a public sewage system. They made a very thorough investigation and their report showed:

1. The subsoil was favorable to use of leaching cesspools.
2. Installations ran from a sewage cesspool for one or two persons to a battery of eleven serving twenty-eight. An average of four and a half persons were served by each installation.
3. Two-thirds of the cesspools had overflows through which sewage escaped when leaching through soil ceased. Twenty-five per cent of cesspools without overflows were in poor condition.
4. Some cesspools had to be cleaned every two weeks. A few had not been cleaned in sixteen years. Average time of cleaning, once every thirteen and a half months.
5. Cost of cleaning, fourteen dollars ($14.00) per year per installation.
6. The estimated cost of a sewerage system and complete treatment of the sewage was $2,665,000. Operating cost was nineteen hundred dollars ($1900.) per 1,000 persons, thirteen hundred dollars ($1300.) of which was for pumping the sewage to the treatment plant.
7. It was proposed to meet this cost by issuing four and a half per cent (4½%) serial bonds, and assessing property $1.50 per front foot and one cent (1c.) per square foot to be paid in ten annual installments.
8. The increase in tax rate would be:
   For cesspools $2.35 per $1000. valuation.
   For sewers $2.30 per $1000. valuation.
9. **CONCLUSION:** The cost of a complete modern sewerage system for any community is no greater than the cost of providing cesspools, and a great deal more sanitary.

DOES IT PAY TO HAVE A HEALTH EXAMINATION?

"There is always something new".

"I thought it was bad enough when Johnnie came home with a paper to sign, 'was I willing for him not to have diphtheria'. Goodness knows I have had the doctor enough and I don't want him to get sick, but how is a person going to know if it is all true what they tell you about looking at the little red spot on the arm to see if you are going to have diphtheria or not, after the doctor has punched a needle into you. I declare I don't know what to think."

"And now my husband has just come home from lodge and told me that a man came to talk to them about going to the doctor to be examined on your birthday. Why on your birthday, I don't know and why you should go to see a doctor when you aren't feeling sick, I can't understand."

"Yes, Mrs. Smith, I have heard all about that, too, and I was just as puzzled over it as you were, but my husband explained it to me. You know I have been taking my little girl down to the Well Baby Conference and they weigh her every month and look her over, and when she doesn't look just right, or doesn't gain enough, the doctor tells me what to do for her. He says it is just like the old saying, 'a stitch in time saves nine'. If you find a little something wrong, maybe you can stop it before it causes any more trouble."

"After my husband explained it all out to me I figured that it might be just like that with grown folks. If you don't have your health, everything goes wrong. So if you go to see your doctor once in a while, he can look you over just as he does my little Mary and if he finds anything wrong, he can tell you what to do to avoid being sick. It would be great, wouldn't it, to be sure you were doing the right things to keep healthy all the time; and the doctor could tell you that, or give you some advice about what to do if he thought you weren't quite as healthy as you ought to be.

"I think I am pretty healthy. Certainly I work hard enough all day, but I get tired sometimes and maybe there is a reason for this. I read in the paper the other day "you ought to know about the value of the foods you eat, that when you sweep and dust all the morning it takes so many calories to supply you with the energy." That isn't quite clear to me. I have an idea that it means that I need to eat more food when I am extra busy, like the days I do the washing and ironing, for instance. Perhaps that is why I have a headache and get faint about noon.

"Anyhow, we have decided, my husband and I, that we will each go and see the doctor and have a good physical examination to make sure that we are all right.

"My husband went to the movies last night (I wanted to go too but I don't like to keep Mary up so late). He told me about a picture he saw on this very subject. It was about a man who was fixing his automobile; he was trying all the parts of the engine and oiling it and looking it all over, when the mail man came and brought him a letter. He opened the letter and it told about having a physical examination. He laughed at this because he was so healthy. 'Never been sick a day in my life'; but while he was reading the paper he had kept his engine running and it nearly blew up because the water dried up in the radiator. He put some water in and it cooled down. He began to think about that physical examination and thought perhaps it was a good thing after all. He had thought his engine was all right too; but there it was at the danger point right before his eyes, and it was only by his prompt action that he avoided trouble. So he rushed off to the doctor's where you could see him having his examination. The doctor found him in pretty good shape, but when he tested his blood pressure, he found it much too high. He told him this would have been dangerous if he had let it go. He advised him what to do, and the man was interested enough by this time to follow his advice (he could see that it was just like that over-heated engine in his automobile). The picture ended by showing the man a year later coming for another examination. This time the doctor found nothing wrong because he had followed his advice and taken as good care of himself as he did his automobile."

And so the seed was dropped while the two neighbors discussed their family problems over the back fence.

1924 has been red lettered for a health year, "Have a Health Examination On Your Birthday" is the slogan adopted by the National Health Council. A health campaign is well under way in some states, mass meetings are being held to arouse the public to the need for periodic health examinations as an indication of the state of health.

Man is living at a higher tension than he did 100 years ago. To meet the demands of modern life he is subjected to a greater physical strain and he needs a reserve stock of health to carry him through the years of his greatest usefulness so that he may enjoy to the fullest, the richness of his declining years, while the younger men take up his burdens. Man is not adapted to the civilized life of today with its excessively heated houses, refined food products, and an activity which is largely nervous rather than muscular.

Statistics show that the adult degenerative diseases are on the increase, and so the death rate does not show the favorable decrease that should be expected as a result of the advances made in the control of communicable diseases. The answer to the problem can be made by man himself; he is the controlling factor. He must look within and check up on his health assets, just as the healthy firm does at the end of its year to see whether it is advancing steadily, or whether it has certain weak places that retard its progress.

Now is the time to pause and have that physical examination. The State Department of Health stands back of this health program and is prepared to discuss the advantages of such a health measure, with talks that can be illustrated with lantern slides and by the moving picture, "Working For Dear Life" which should be seen by all communities in the state.

Preventable Diseases

Incidence of Preventable Diseases

January, 1924

A comparison of the daily morbidity reports received during the month of January, 1924, with the corresponding month for the years 1919, 1920, 1921, 1922 and 1923.

Certain Diseases	Average 1919-1923 for Jan.	Mean 1919-1923 for Jan.	Cases reported by Local Health Officers. 1919	1920	1921	1922	1923	1924
Cerebrospinal Meningitis ..	6	6	3	8	6	4	8	1
Diphtheria	362	322	280	429	435	369	299	274
Encephalitis Epidemic	(Not	reportable	until	1921)	3	0	2	4
Measles	973	442	362	1,425	571	442	2,066	810
Poliomyelitis	1	1	1	2	2	1	1	0
Scarlet Fever	424	438	198	438	630	396	459	741
Smallpox	20	4	0	2	1	95	4	2
Typhoid Fever	8	8	6	11	8	8	7	10
Tuberculosis (pulmonary)	131	127	132	127	189	90	119	169
Whooping Cough	273	309	37	309	447	224	350	313

A comparison of the morbidity on these diseases for the two preceding months, November and December, 1923, with the January, 1924, record is as follows:

	November	December	January
Cerebrospinal Meningitis	9	4	1
Diphtheria	264	305	274
Encephalitis Epidemic	2	0	4
Measles	572	886	810
Poliomyelitis	9	7	0
Scarlet Fever	343	474	741
Smallpox	2	1	2
Typhoid Fever	22	28	10
Tuberculosis (pulmonary)	119	114	169
Whooping Cough	186	116	313

Cases of Other Reportable Diseases

January, 1924

Chicken pox	517
Conjunctivitis Infectious	4
(Ophthalmia Neonatorum)	4
Encephalitis Epidemic	4
Favus	1
German Measles	23
Influenza	34
Mumps	379
Paratyphoid Fever	4
Septic Sore Throat	2
Smallpox	2
Trachoma	1
Trichinosis	2
Gonorrhea	37
Syphilis	83
Total	1,097

Occupational Diseases: Benzol, 1; Eczema, 1; Lead Poisoning, 2; Occupational Dermatitis, 3.

January, 1924

	Population	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com. Disease
State Total	1,502,405	7	810	741	313	274	1		169	17	131	1097
NEW HAVEN CO.	**451,336**	**2**	**196**	**245**	**57**	**86**			**45**	**5**	**44**	**430**
New Haven	175,827	1	18	76	32	12			24	5	26	295
Waterbury	100,291		1	71		33			13		7	20
Meriden (city and town)	36,014	1	118	3	13	8			1		3	20
Ansonia	18,798			4	2	3					4	5
West Haven	17,354		1	48	1	9			1			17
Naugatuck	16,130											
Wallingford (town and boro)	12,405		35	9		10			2			4
Milford	12,893			7							1	11
Derby	12,279			3		3					2	
Hamden	9,890			10		3						27
Branford (town and boro)	6,895				3	1			2		1	1
Seymour	7,705				4							
Towns under 5,000	24,855		23	14	2	4			2			30
FAIRFIELD CO.	**355,984**	**2**	**196**	**93**	**114**	**56**			**26**	**2**	**30**	**158**
Bridgeport	162,491	2	4	29	13	37			21		17	47
Stamford (city and town)	45,157		30	2	36	1			1		4	52
Norwalk	29,292		1	16	2	4			1		1	5
Danbury (city and town)	21,981		1	4					1		1	1
Greenwich (town and boro)	24,674		67	3	5					1	4	15
Stratford	15,422			4		6					2	8
Fairfield	13,950		2	9	1	3			1	1	1	3
Shelton	10,833			4					1			2
Westport	5,509					3						3
Towns under 5,000	26,675		91	22	57	2						22
HARTFORD CO.	**375,816**		**255**	**299**	**111**	**94**	**1**		**46**	**8**	**36**	**321**
Hartford	156,169		57	188	18	42			20	5	15	117
New Britain	66,370		8	40	18	22			16	2	5	76
Bristol (city and town)	23,918		3	14	6	6			5		2	6
Manchester	20,561		2	4	4	2			2		3	10
Enfield	12,629		95			11			2			8
East Hartford	13,274			7	1							7
Southington (town and boro)	9,331		43	2		1				1	3	25
West Hartford	10,729			14	48	5			1		2	20
Windsor	6,287			9	2						1	13
Glastonbury	5,960						1					
Towns under 5,000	50,588		47	21	14	5					5	39
NEW LONDON CO.	**110,803**	**1**	**25**	**14**	**10**	**13**			**10**	**2**	**7**	**41**
Norwich (city and town)	30,303		1	1		3			4	1	1	3
New London	28,421		2	2		3			1	1	2	5
Stonington (town and boro)	10,718		4	2		1			1			4
Groton (town and boro)	10,493		18	2							1	16
Towns under 5,000	30,868	1		7	10	6			4		3	13
LITCHFIELD CO.	**79,046**	**1**	**4**	**27**	**7**	**2**					**2**	**43**
Torrington (town and boro)	24,055											
Winchester (inc. Winsted)	9,095											
Plymouth	6,315			7								1
Watertown	7,016			3	1							36
Towns under 5,000	32,565	1	4	17	6	2					2	6
WINDHAM CO.	**54,881**		**12**	**39**	**13**	**12**			**7**		**7**	**34**
Windham (inc. Willimantic)	14,265			2		7						12
Putnam (city and town)	8,894		6	18		1			2		1	5
Plainfield	8,465			1		1						
Killingly (inc. Danielson)	8,905		2	4		2			2		4	3
Thompson	5,171		1	5	5				1		1	1
Towns under 5,000	9,181		3	9	8	1			2		1	13
MIDDLESEX CO.	**46,972**		**8**	**21**	**1**	**3**			**32**		**1**	**51**
Middletown (city and town)	22,554		2	7		1						
Towns under 5,000	24,418		6	14	1	2					1	22
Middletown State Hospital									32			29
TOLLAND CO.	**27,567**	**1**	**114**	**3**		**8**			**3**		**4**	**19**
Vernon (inc. Rockville)	8,822			2		5						
Stafford (town and boro)	5,456		27			1			1		2	1
Towns under 5,000	13,289	1	87	1		2			2		2	18

(For cases of other reportable diseases see page 49.)

Index of 1923 Volume of Monthly Health Bulletin

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 38 March, 1924 No. 3

This Issue Contains

STANLEY H. OSBORN, M. D., C. P. H., Commissioner.

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HARTFORD

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THE STATE DEPARTMENT OF HEALTH, HARTFORD

CONNECTICUT
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Vol. 38 | March, 1924 | No. 3

Issued Monthly by the
STATE DEPARTMENT OF HEALTH

PRELIMINARY STEPS IN PREVENTION OF MENTAL DISEASE

Mental disease is one of Connecticut's greatest public health problems because of its increasing incidence, and social and economic cost, and particularly because the public is not yet sufficiently aroused to exhibit more than half-hearted interest in the adoption of a decisive program of prevention.

Our State Hospitals operate under a handicap because of their crowded conditions. The Connecticut State Hospital is able to receive only emergency and exceptional cases and the brunt of the receiving has fallen to the Norwich State Hospital which speaking conservatively is operating at full capacity. The Mansfield State Training School and Hospital is overcrowded and has a waiting list of approximately three hundred. Without adequate measures there will always be a "waiting list for Mansfield". Additional hospitals would relieve the situation temporarily but would fall far short of actual solution of the problem. The rational measure is to prevent the development of new mental disorders; "to dam the stream at its source" as Dr. Fernald states in his discussion of the prevention of feeble-mindedness. Such a campaign of prevention requires the support of the entire public of Connecticut as well as its medical profession, legislative and judiciary bodies, and men and women who think far ahead.

Cooperation will be secured more easily if there is general understanding of some of the more common facts of mental disease. In a supplement to the Bulletin appears the first of a series of articles on Heredity, Alcohol, and Syphilis, the essential causes of 75 per cent of all mental disorder.

Preventable Diseases

RECENT ADVANCES IN SCARLET FEVER

By Francis G. Blake, M. D.
Dept. of Internal Medicine of Yale University School of Medicine

During recent years a large number of investigators have been making intensive studies of scarlet fever with the hope of establishing beyond doubt the bacterial etiology of the disease and of providing specific means of prevention and cure. These investigations have now reached a point where it seems established that a specific type of hemolytic streptococcus can be accepted as the cause of scarlet fever. Bliss, Tunnicliff, Gordon, Dochez, and Stevens have independently shown that the hemolytic streptococci always present in the throats of scarlet fever patients, are of a particular type and possess properties by which they may be distinguished from other streptococci which cause a variety of diseases.

With the scarlet fever streptococcus Dochez has been able to produce in guinea pigs a disease which is characterized by certain of the phenomena of scarlet fever in man, namely,—a transient erythematous rash followed by desquamation. Final proof has recently been provided by Dick and Dick who have successfully produced scarlet fever in human volunteers by inoculation of the throat with pure cultures of this streptococcus. Further evidence in support of the conclusion that the particular type of hemolytic streptococcus is the cause of scarlet fever is found in the demonstration by Blake that an immune horse serum prepared by Dochez by the immunization of a horse with a strain of the scarlet fever streptococcus possesses the capacity to locally blanch the rash when 0.5 cc. or less of the serum is injected intracutaneously in patients with scarlet fever.

Simultaneously with the investigation on the relation of streptococcus hemolyticus to scarlet fever another line of study has been carried on by other investigators. These researches have dealt with the diagnostic and therapeutic properties of serum of persons convalescent from scarlet fever. Schultz and Charlton first showed that serum from convalescent scarlet fever paients and also from normal adults when injected intracutaneously in persons acutely ill with scarlet fever possessed the capacity to blanch the rash at the site of the injection. This observation has been confirmed by others. It has furthermore developed that the serum from persons acutely ill with scarlet fever and from some normal persons does

not possess the capacity to neutralize the rash. Quite recently Mair has advanced the conception that the blanching phenomenon is due to an antitoxin which neutralizes a toxin elaborated during scarlet fever and that scarlet fever is comparable to diphtheria in that the infection is a local one in the throat with the elaboration of a toxin which is absorbed and produces the rash and other general symptoms of the disease.

In addition to the local blanching effect of convalescent serum it has been shown by Reiss and Jungmann, Zingher, Kling and Widfelt, Weaver and many others that the serum possesses very definite therapeutic value especially when administered early in the course of scarlet fever.

These accumulated experimental observations have led Dochez to attempt to produce an artifical immune serum, presumably antitoxic, by immunization of a horse with the scarlet fever streptococcus. Clinical tests of the diagnostic and therapeutic value of this serum are now being carried on. While it is impossible to say definitely at the present moment how valuable the serum will prove to be, it has already been found, as stated above, that the serum possesses the capacity to specifically blanch the scarlet fever exanthem when injected intracutaneously and will probably provide a reliable diagnostic test. Preliminary therapeutic trial in a limited number of patients indicates that it will probably be found to be a prompt and efficient curative serum even in severe toxic cases provided treatment is instituted early in the course of the disease. Final opinion, however, as to its curative properties must be reserved until more extensive clinical trial has been made.

If the point of view which has developed concerning scarlet fever on the basis of the investigations outlined above proves correct, it would seem probable that the near future will see not only a specific means for the cure of scarlet fever but also a method for active immunization against the disease similar to the toxin-antitoxin method now available for diphtheria. In fact, the first step in this direction seems already to have been accomplished by Dick and Dick who have recently reported the development of a test for susceptibility to scarlet fever which appears to be comparable to the Schick test for susceptibility to diphtheria.

INCIDENCE OF PREVENTABLE DISEASES

February, 1924

A comparison of the daily morbidity reports received during the month of February, 1924, with corresponding month for the years 1919, 1920, 1921, 1922, and 1923 is shown in the following table.

Certain Diseases	Average 1919-1923 for Feb.	Mean 1919-1923 for Feb.	Cases reported by Local Health Officers. 1919	1920	1921	1922	1923	1924
Cerebrospinal Meningitis ..	6	9	3	9	8	12	9	2
Diphtheria	275	258	258	281	389	255	191	229
Encephal. Epidemic	(Not reportable till 1921)			4	16	11	34	2
Measles	942	756	671	1,165	756	545	1,575	329
Poliomyelitis	2	1	1	1	1	4	1	2
Scarlet Fever	405	365	242	365	679	375	362	746
Smallpox	15	0	0	0	0	65	10	7
Typhoid Fever	8	6	6	6	17	7	5	6
Tuberculosis (pulmonary)	132	131	131	98	188	140	101	133
Whooping Cough	218	255	45	255	376	112	303	188

A comparison of the morbidity on these diseases for the two preceding months, December and January with the February record is as follows:

	December	January	February
Cerebrospinal Meningitis	4	1	2
Diphtheria	305	274	229
Encephalitis Epidemic	0	4	2
Measles	886	809	829
Poliomyelitis	7	0	2
Scarlet Fever	474	741	746
Smallpox	1	2	7
Typhoid Fever	28	8	6
Tuberculosis (pulmonary)	114	167	133
Whooping Cough	116	313	188

Cases of Other Reportable Diseases

February, 1924

Chickenpox	376	Septic Sore Throat	8
Conjunctivitis Infectious	5	Smallpox	7
Encephalitis Epidemic	2	Tetanus	1
German Measles	32	Trichinosis	2
Influenza	43	Gonorrhoea	71
Malaria	1	Syphilis	72
Mumps	495		
Paratyphoid Fever	6	Total	1,121

Cases of Occupational Diseases

Chronic Mercurial Poisoning	1
Lead Poisoning	2
Total	3

Cases of Certain Reportable Diseases

February, 1924	Population	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com. Diseases
State Total	1,502,405	6	829	746	188	229	2	2	133	13	175	1121
NEW HAVEN CO.	**451,336**	**3**	**85**	**228**	**32**	**84**	**1**	**1**	**42**	**6**	**58**	**414**
New Haven	175,827	1	32	59	16	9		1	22	6	28	208
Waterbury	100,291			60	1	46			12		3	15
Meriden (city and town)	36,014		19	8	3	3	1		2		14	22
Ansonia	18,798			4	6	3			1		1	18
West Haven	17,354		5	44		7					2	26
Naugatuck	16,130			3		4						
Wallingford (town and boro)	12,405	2		3		6						
Milford	12,893			3					1		1	35
Derby	12,279			2					1		1	1
Hamden	9,890			11	4	1					1	36
Branford (town and boro)	6,895				1				1		1	13
Seymour	7,705			10							1	1
Towns under 5,000	24,855		29	21	1	5			2		5	39
FAIRFIELD CO.	**355,984**		**344**	**90**	**66**	**37**			**36**	**2**	**28**	**188**
Bridgeport	162,491		3	47	11	21			24	1	15	55
Stamford (city and town)	45,157		122	7	25	2			1		2	89
Norwalk	29,292		1	5		3						4
Danbury (city and town)	21,981			9		1			4			2
Greenwich (town and boro)	24,674		122	2					2		3	8
Stratford	15,422					3				1	4	8
Fairfield	13,950		1	9	9	2			2		2	15
Shelton	10,833			7		2						1
Westport	5,509				1	1						4
Towns under 5,000	26,675		95	4	20	2			3		2	2
HARTFORD CO.	**375,816**	**1**	**353**	**295**	**66**	**81**	**1**		**30**	**4**	**52**	**339**
Hartford	156,169		156	196	12	41			11	3	16	154
New Britain	66,370		3	36	23	21	1		6	1	9	58
Bristol (city and town)	23,918	1	2	16		7			4		8	7
Manchester	20,561		6	5					1		5	11
Enfield	12,629		21			9			1		4	4
East Hartford	13,274			8	1	1			2		3	6
Southington (town and boro)	9,331		58		1				1		1	18
West Hartford	10,729		6	15	23						1	23
Windsor	6,287			4					1			1
Glastonbury	5,960											
Towns under 5,000	50,588		101	15	6	2			3		5	57
NEW LONDON CO.	**110,803**		**2**	**34**	**6**	**9**		**1**	**14**		**11**	**33**
Norwich (city and town)	30,303			2		5			7		6	1
New London	28,421		1	4		2			2			5
Stonington (town and boro)	10,718		1	4	2	1			1			3
Groton (town and boro)	10,493			8				1			4	7
Towns under 5,000	30,868			16	4	1			4		1	17
LITCHFIELD CO.	**79,046**		**20**	**34**	**7**	**3**			**3**		**7**	**33**
Torrington (town and boro)	24.055								1			
Winchester (inc. Winsted)	9,095			1								
Plymouth	6,315		2	2					1		2	2
Watertown	7.016			1								11
Towns under 5,000	32,565		18	30	7	3			1		5	20
WINDHAM CO.	**54,881**		**1**	**33**	**8**	**1**				**1**	**12**	**33**
Windham (inc. Willimantic)	14,265			3							1	4
Putnam (city and town)	8,894		1	8	1						2	9
Plainfield	8,465			3	1	1				1		
Killingly (inc. Danielson)	8,905			3	1						5	3
Thompson	5,171			11								4
Towns under 5,000	9,181			5	5						4	13
MIDDLESEX CO.	**46,972**	**2**	**3**	**26**	**2**	**4**			**6**		**4**	**71**
Middletown (city and town)	22,554		2	16		2						33
Middletown State Hospital									6			1
Towns under 5,000	24,418	2	1	10	2	2					4	37
TOLLAND CO.	**27,567**		**21**	**6**	**1**	**10**			**2**		**3**	**10**
Vernon (inc. Rockville)	8,822			1		5						1
Stafford (town and boro)	5,456		10	1		4			1		3	
Towns under 5,000	13.289		11	4	1	1			1			9

(For cases of other reportable diseases, see page 58)

TESTING CLINICAL THERMOMETERS

In February 1923, a new division was added to the Bureau of Laboratories of the State Department of Health, when the equipment was installed for testing clinical thermometers.

Previous to that it would have been difficult to admit that there was room at the Laboratory for the addition of a new phase of work—so crowded have the conditions been. But even in such congestion the way was found to crowd some valuable piece of work into a still smaller corner and so make room for a need. Figure 1 shows how this was accomplished by utilizing some of the space in the chemical division, formerly occupied by the equipment for water examination.

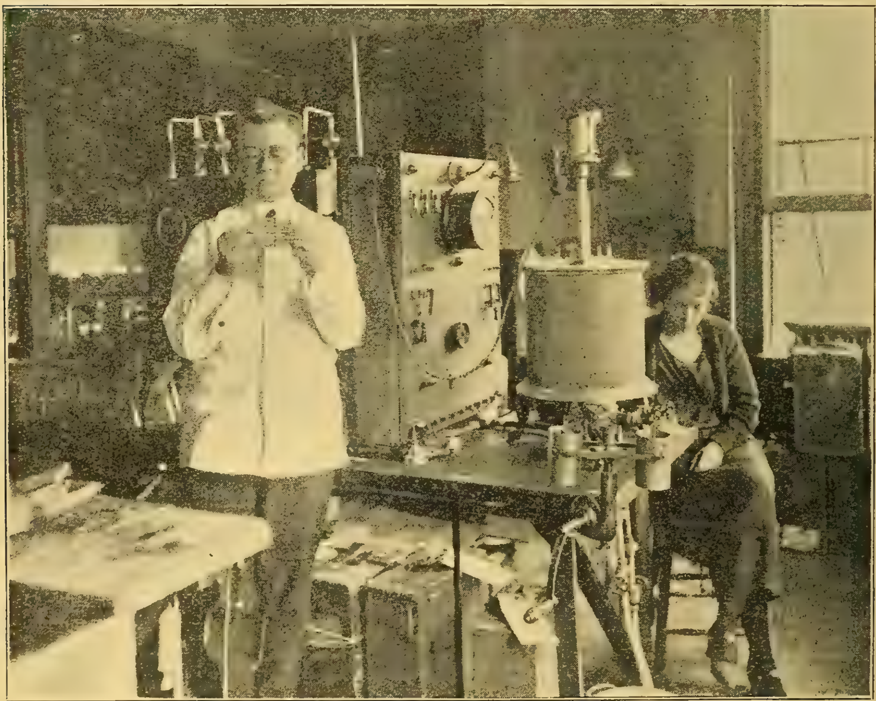


Figure 1 Apparatus for testing thermometers—installed in the chemical division.

The regulation covering the testing of clinical thermometers was laid down in General Acts of 1921, Chapter 142 "An Act Concerning the establishment of a State Clinical Standard Thermometer". By the provision of this act a state clinical standard thermometer certified by the U. S. Bureau of Standards, becomes the standard for measuring the accuracy of clinical thermometers. The purpose was to establish a standard of accuracy to which thermometers, offered for sale in Connecticut, must conform before sale in this state will be permitted.

Figure 2 Machine for testing clinical thermometers

Figure 2 shows the apparatus used for testing clinical thermometers. This consists of a steel cylinder with inner water bath in which the clinical thermometers are inserted and held until the desired temperature is reached. Heat is applied to

the water bath by means of an electric coil attached at the lower side, and the water is kept in constant circulation by means of a motor attached above—this is to distribute the heat evenly.

Ninety-six clinical thermometers may be tested at one time. There are four racks holding twenty-four, each of these being inserted as shown in Figure 2. In the center is shown the thermometer which has been certified by the U. S. Bureau of Standards and against which the clinical thermometers are tested for accuracy of reading.

This is done by bringing the water up to 96° F. as shown by the standard thermometer.

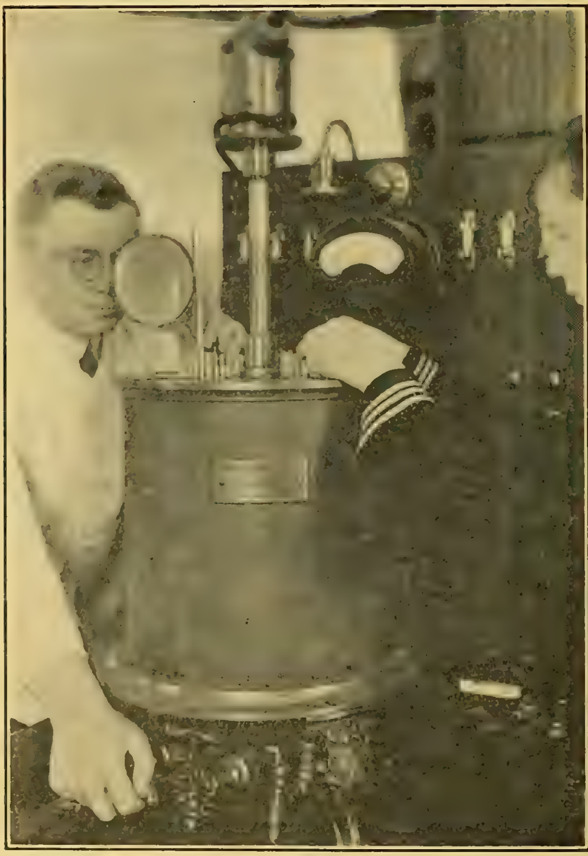


Figure 3 Testing clinical thermometers at 96° F.

So much depends upon the accuracy of this test that the mercury in the standard thermometer is carefully watched with a hand lens, as shown in Figure 4. When this reaches

exactly to the 96° F. point the heat is shut off and cold water is turned on to immediately lower the temperature of the bath. When the mercury in the standard thermometer has begun to drop, all of the clinical thermometers are taken out and a reading of each one is made.

Figure 1, page 60 shows the reading of the clinical thermometers. Each thermometer, bearing a serial number, has been recorded on a card together with its rack number. Starting with number one in the rack, the corrections for each are called off by the observer and recorded by the assistant. Tests and readings of thermometers are successively made at 96° F., 100° F., 104° F., and 106° F. Moreover, duplicate tests and readings are made at each one of these four test points. These readings are recorded in their respective columns after each test. The readings must be found correct within plus or minus 0.2° F. at each successive test point and show no greater error than 0.3° F. between any two test points.

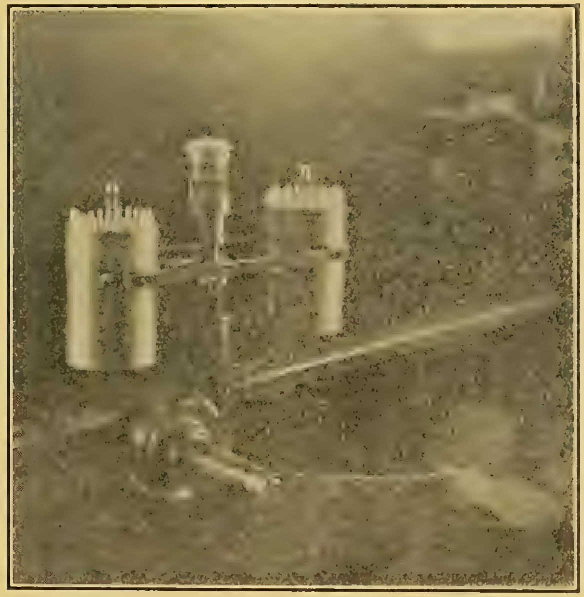


Figure 4 Centrifugal machine for testing operation of registering device

Before these thermometers can be accepted as meeting the legal requirements they must also be tested for the operation of the registering device. This consists in determining whether the mercury after being heated to the 108° F. point remains there or drops back to some extent. Those that do not register this temperature accurately are discarded. Also, tests are

made to see how easily the mercury is shaken down. This test is made by means of a centrifugal machine which conforms to the specifications of the U. S. Bureau of Standards. It applies the same degree of force for this purpose to all of the thermometers.

In performing this test the racks holding the thermometers are put into the two cylinders of the machine, which is rotated by hand until the glycerine indicator reaches a given mark, after which it is allowed to rotate until it stops automoatically. Reading and recording of the height of the mercury in each thermometer follow the same order as in the previous readings. The mercury in each thermometer must go below the 95° F. point in the tests before giving permission for sealing and below the 96° F. point in certifying single thermometers. If the mercury fails to be drawn down to this extent they are rejected as "hard shakers".

Sealing Thermometers

The law provides that manufacturers, whose clinical thermometers have been found satisfactory may use the Connecticut seal on their thermometers. In order to obtain this permission each manufacturer must submit at least forty-eight thermometers, or as many more as may be requested, these to be taken at random from the manufacturer's stock. Thermometers thus submitted must have been manufactured and tested at the factory and a statement is required showing that the material used in them is satisfactory, meeting the specifications required by the State Department of Health.

If the thermometers thus submitted are found to be accurate the manufacturer is required to submit two thermometers of each variety which he wishes to sell in Connecticut. On these is engraved "Conn.—Seal", with the letter which is to be assigned to that manufacturer. These two thermometers of each variety are then tested as above. If found satisfactory, one thermometer of each variety is kept at the Laboratory and the other returned to the manufacturer, and he is then given the right to use the Connecticut seal on clinical thermometers of the varieties submitted.

For purposes of identification there must also be engraved on each thermometer, in addition to the Connecticut seal, the maker's name, initials, or trademark and a serial number, together with any distinctive name or mark indicating the variety of the thermometer. All thermometers thus sealed and sold in this State must conform in every particular with the samples submitted.

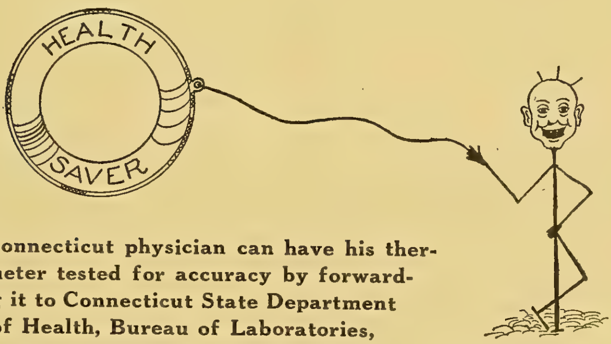
After the manufacturer has submitted samples and these have been approved he is furnished a certificate issued by the Department of Health, giving him the right to use the Connecticut seal on thermometers. This cannot be used on any

variety except those submitted for test. If at any time this seal is found to be affixed to thermometers of other varieties than those submitted or to thermometers which do not conform in every way to those submitted for test, the authority to sell clinical thermometers in this State may be revoked by the Commissioner of the State Department of Health.

Certifying Thermometers

In addition to testing thermometers submitted by manufacturers who wish to obtain the right to use the Connecticut seal, thermometers are also certified at the Bureau of Laboratories. That is, individual thermometers are tested and a certificate given with each thermometer. For this purpose the thermometers must pass the tests for accuracy as given above and must conform to the specifications as already indicated. These are legal requirements for certification of clinical thermometers in this State. The Laboratory is in a position to test and certify clinical thermometers for hospitals, physicians, and others who wish to submit them for this purpose.

No thermometers can now be legally sold in Connecticut except those bearing the Connecticut seal or those having a certificate of accuracy from the Laboratory of the State Department of Health. The assurance of the Laboratory that such thermometers are accurate will increase the confidence in their use, while thermometers condemned by such a test will be rejected and retained at the Laboratory. It is the intention of the Departmnt to frequently secure thermometers bearing the Connecticut seal which have been sent into the State for sale, in order to determine that the manufacturers are not abusing the privilege which has been granted to them and that thermometers of their make continue to be reliable.



Any Connecticut physician can have his thermometer tested for accuracy by forwarding it to Connecticut State Department of Health, Bureau of Laboratories, 135 Huntington St., New Haven, Conn.

Report for February, 1924

DIAGNOSTIC DIVISION

	+	—	?	Total
Typhoid	....	34	3	37
Paratyphoid A	....	35	2	37
Paratyphoid B	....	34	3	37
Diphtheria:				994
Diagnosis	68	480	....	
Release	60	386	....	
Diphtheria Carriers:				277
Diagnosis	2	261	....	
Release	....	14	....	
Diphtheria Virulence	3	2	....	5
Tuberculosis	19	93	....	112
Syphilis	201	1,246	83	1,530
Colloidal Gold Test on Spinal Fluids	8	22	....	30
Gonorrhoea	13	45	....	58
Glanders	....	....	....	....
Pneumonia:		....		1
TypeI	....			
Type II	....			
Type III	....			
Type IV	1			
Malaria	....	1	....	1
Rabies	....	....	....	....
Feces for Ova	....	2	....	2
Feces for Typhoid	....	13	....	13
Urine for Typhoid	....	9	....	9
Feces for Paratyphoid B	1	....	....	1
Special	....	1	....	1
Totals	376	2,678	91	3,145

CHEMICAL DIVISION

Milk Examination

Number of towns sending samples	14
Number of samples tested	145
Number of samples below fat standard	2
Number of samples showing low refractive index, indicating watering	0

Water Examination

Number of towns sending samples	38
Number of samples examined	90
Number of sewage examined	0
Total number of samples examined in the division of chemistry during the month of February, 1924	235

CLINICAL THERMOMETERS

Number of thermometers passing test	331
Number of thermometers rejected	76
Total number of thermometers tested	407
Number of thermometers certified	226

Sanitary Engineering

THE DROUGHT OF 1923

The summer and early fall of 1923 was a "dry" period in many parts of Connecticut. In fact, it was commonly believed in some quarters that the drought was as severe as any on record. It is proposed to compare the 1923 drought with past records and to give a general indication as to whether or not it was sufficiently severe to tax a public water supply to its utmost capacity. Some general observations on rainfall in Connecticut are also presented.

Source of Water Supply

The rain, which is, of course, the source of all our water supply, falls into three classes: that percolating into the ground and constituting our ground water supply from which wells derive their water; that lost by evaporation; and that running off in streams, making up our rivers, lakes and reservoirs. Sometimes these bodies of water are also fed by ground water coming to the surface in the form of springs.

The yield of a drainage area, or the run-off is the total of the amount of water drawn for consumption, the amount wasted over the spillway of a reservoir, and the addition or subtraction for the water added to or lost from storage in the reservoir.

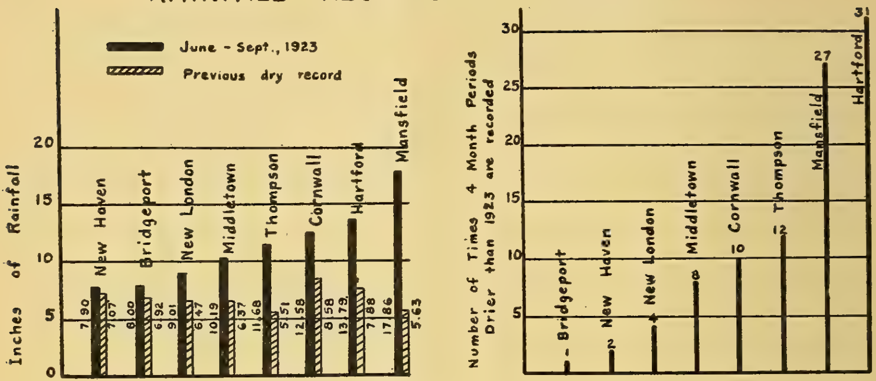
From the summation of these divisions, yields of various drainage areas in New England and elsewhere have been figured for many years. Especial attention is directed by waterworks engineers to the yields during the previous driest years on record, since it is only from these figures that the probable yields of water supplies can be counted on for present and future consumption needs.

Two factors are necessary in any severe shortage of water supply,—low rainfall and a low percentage of this rain running off into reservoirs.

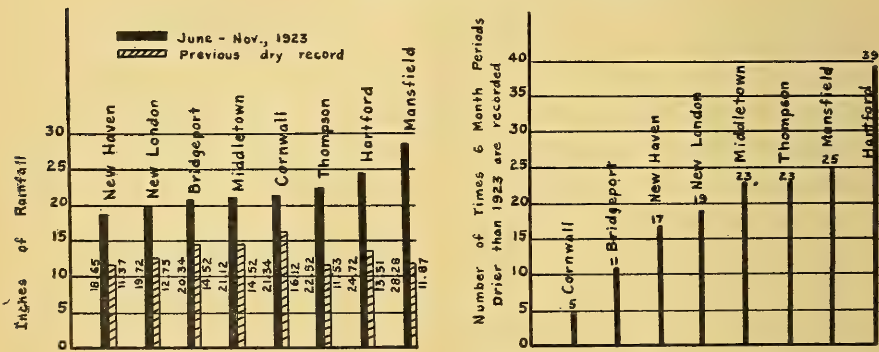
It is principally in the summer months, usually from June to November, that low rainfall gives serious trouble in shortage of public water supplies. This is because the percentage of the rainfall which runs off in streams and reservoirs is less in the summer months than in the winter, due to the greater absorption of water by percolation and evaporation in the summer. In the winter, when the ground is frozen, a large percentage of the rain or snow falling reaches the streams and reservoirs.

In the case of water supplies with very large storage, they

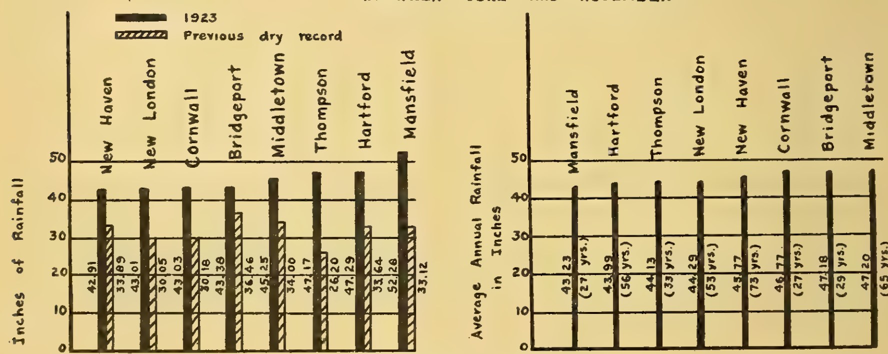
RAINFALL RECORDS IN CONNECTICUT



FOUR MONTH PERIODS
BETWEEN JUNE AND NOVEMBER



SIX MONTH PERIODS
BETWEEN JUNE AND NOVEMBER



ANNUAL PERIODS

are affected only by long dry periods of many months, as the storage on hand at the beginning of a short dry period, such as the recent one, will maintain the supply.

Comparison of 1923 Rainfall with Past Records

The rainfall stations selected are considered representative of various sections of the State and one station in each county is chosen. A map of Connecticut designating the locations of the stations is shown. With the exception of the Middletown rainfall records which are under the supervision of the city officials, the more recent records are mainly gathered by observers of the U. S. Weather Bureau. The earlier records are from various sources.

The first of the three diagrams shown compares the rainfall from June to September, 1923, with previous dry four month periods. The second diagram shows a similar comparison for the six month period from June to November.

The number of times is cited when the rainfall in four month and six month periods was less than in 1923. The reason these two periods are chosen is that the four months from June to September represent the real "dry spell" in 1923 and the six month period is the one ordinarily reckoned with as the "dry" six months. Only the months between June and November in the records were considered because from past experience we know that drainage areas yield less water in these months.

The third diagram shows the yearly rainfall for 1923 compared with the driest years on record and also the average annual rainfall with the number of years the records cover.

Lengths of Rainfall Records

In comparing previous records it must be borne in mind that the lengths of the records vary, and accordingly, allowances must be made. The longest record is at New Haven where 73 years of rainfall are recorded. This record began in 1804 and was continued with but few interruptions until 1829. No figures are available from then until 1864, but beginning in 1873, the record is continuous up to the present. At Middletown, records were commenced in Septemer, 1858, and are continuous from that date. The Hartford and New London records extend for over 50 years, but the remaining four stations cover considerably shorter periods.

Drought most severe in Coast Section

The chart of the average annual precipitation demonstrates the slight difference in the yearly average rainfall over the State. The station at Thompson for the year 1910 records the remarkably low yearly rainfall of 26.20 inches.

It is seen from the first of these charts that the 1923 drought was felt mainly in localities close to the sea. Bridgeport and New Haven, and to a lesser degree, New London, experienced a severe drought. In the inland part of the State, the rainfall was not comparable with many previous dry periods.

In the coast section, the rainfall over a short period of low run-off, such as would affect particularly supplies without large storage, was nearly as low in 1923 as any available records of past years. However, the short duration of the period considered must be remembered, as such a dry period as the recent one would have been of far more serious proportions if the duration had extended for one or two months more. Waterworks officials who consider the adequacy of their supplies satisfactory because they weathered the drought of 1923 should take note of the fact that drier periods have been experienced in the past and can be looked for in the future.

SANITARY SURVEY OF SCHOOLS

SCHOOLS SHOULD HAVE

1. **Safe drinking water with fountain or individual cups.**
2. **Sanitary privies or toilet systems.**
3. **Proper lighting, sufficient heating and ventilation.**
5. **A safe and clean playground.**
4. **Lavoratories, wash basins and paper towels.**

Vital Statistics

MONTH OF JANUARY, 1924

Births

During the month 2,553 births were registered, the lowest number to be reported in the last six years, and 24 lower than the corresponding month for 1923. The average number of births for the five-year period 1919-1923 is 2,810 and from this it appears that 1924 is 257 below the average. In 1923 this deviation from the average was 564 negative, or below the average. Twenty-seven towns out of forty-seven over 5,000 in population reported more births in January, 1924, than in the same month for 1923. The following towns reported increases of ten or more, and the figures immediately following are the actual increases: Derby, 27; Hartford, 12; Manchester, 12; New Haven, 49; Norwalk, 18; Norwich, 14; Thompson, 11.

During the month 108 still births were reported, an increase of 27 over the 81 reported in 1923. Combining the living and still births it follows that 4.06 per cent of this total were still births. In 1923 the figures were 3.26 per cent.

Deaths

The registered deaths numbered 1,546, a decrease of 287 over 1923 when 1,833 were reported. This number, 1,546, is 297 below the average of 1,843 for the period 1919-1923. The year of 1924 is therefore apparently getting away to a favorable start.

The following table has been compiled to exhibit certain causes of deaths for 1924 and 1923.

CAUSE OF DEATH	1924	1923	INCREASE	DECREASE
Diseases of the Heart	225	240	....	15
Encephalitis Epidemic	2	2	....	....
Pneumonia Undefined	12	8	4	....
Typhoid Fever	1	0	1	....
Measles	7	25	....	18
Scarlet Fever	8	6	2	....
Whooping Cough	9	11	....	2
Diphtheria	18	30	....	12
Influenza	24	77	....	53
Tuberculosis (Pulmonary)	87	101	....	14
Tuberculosis (Other forms)	14	11	3	....
Cancer	125	128	....	3
Cerebrospinal Meningitis	1	7	....	6
Poliomyelitis	1	0	1	....
Pneumonia, (Lobar)	75	151	....	76
Pneumonia, (Broncho)	84	169	....	85

CAUSE OF DEATH	1924	1923	INCREASE	DECREASE
Diarrhoea and Enteritis, (Under 2)	21	18	3	....
Puerperal Diseases	26	18	8	....
Accident	88	77	11	....
Suicide	6	21	....	15
Homicide	4	3	1	....
Other causes	708	730	....	22
Totals	1,546	1,833	34	321

It will be noted from the above that the deaths from Influenza and the Pneumonias decreased 214 over 1923. In the last few years it has been apparent that if the winter months are characterized by a favorable mortality, the year may be expected to yield an encouraging experience.

Of the Accidental deaths 12 were due to Automobile accidents as compared with 6 in 1923, the increase being due to the open winter which has permitted motoring over all roads.

Infant Mortality

The deaths of infants numbered 220 giving an Infant Mortality rate of 86.4 per 1,000 living births. One year ago the figures were 238 deaths and a rate of 93.3.

Marriages

During the month 792 marriages were reported, an increase of 15 over the 777 recorded in 1923. The average number is 861, indicating that 1924 is 69 below the average.

Six Year Study—January 1919-1924

CONNECTICUT	1919	1920	1921	1922	1923	1924
BIRTHS	2799	2836	2954	2882	2577	2553
Birth Rate	22.9	24.4	25.0	23.9	21.0	20.4
DEATHS	2424	1828	1534	1595	1833	1546
Death Rate	19.9	15.7	13.0	13.2	14.9	12.3
MARRIAGES	811	988	960	767	777	792
Marriage Rate	6.6	8.5	8.1	6.4	6.3	6.3
COMMUNICABLE DIS.* DEATHS	991	347	217	202	257	156
Per Cent to Total Deaths	40.9	19.0	14.1	12.7	14.0	10.1
DEATHS UNDER 1 YEAR	316	252	256	210	238	220
Rate per 1000 births	111.3	88.5	90.1	80.6	93.3	86.4

*Includes: Typhoid Fever, Measles, Scarlet Fever, Whooping Cough. Diphtheria, Tuberculosis Pul., Cerebro-Spinal Men., Poliomyelitis, Influenza.

HELP WANTED!

To Make Our Homes Safe and Sanitary.

To Make Our Town Healthy and Prosperous.

Have You

A dirty back yard?
An uncovered garbage pail?
Chicken coops needing care?
Open or broken sink drain?
A neglected privy?
A fly-breeding manure heap?
Or an unprotected well?

Look around and see if there is not Something for you to do!

Protect your family from Disease and Discomfort.
Make your home more Pleasant and Beautiful.
Be a good Neighbor and a good Citizen.

____
Health Officer.

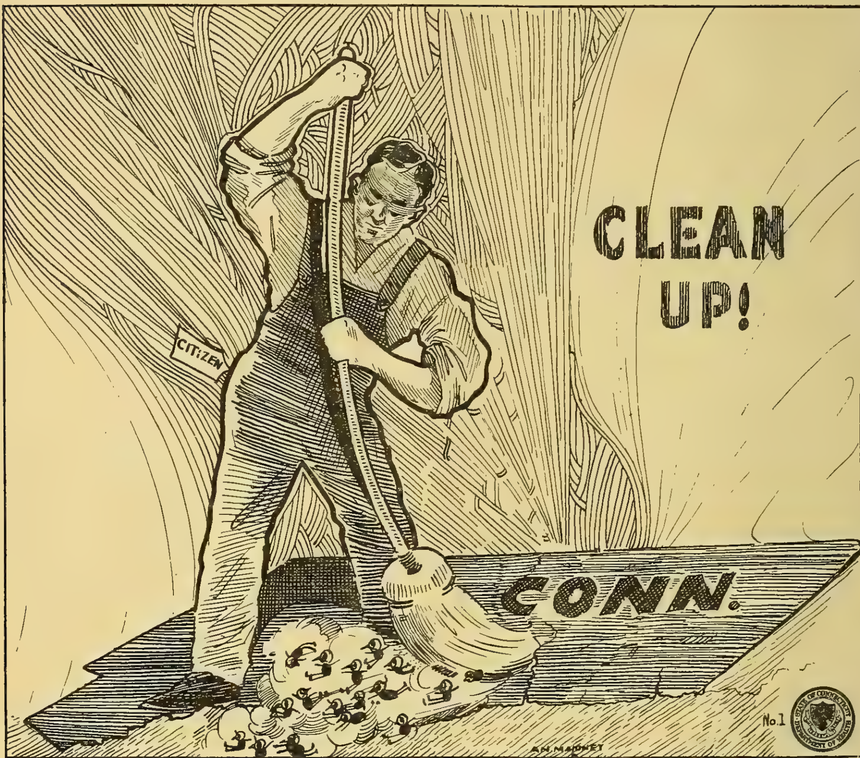
January Statistics 1924	Population Based on U S Census Est. as of July 1, 1924	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Still Births	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,502.405	2553	108	792	1546	12.3	0.7	86.4	220	90	532
Ansonia	18.798	27		6	18	11.5	0.6	178.0	5	2	7
Branford	6.895	13	1	4	9	15.7	3.5	120.0	1		3
Bridgeport	162.491	246	10	97	132	9.7	1.0	66.2	18	8	34
Bristol	23.918	52	2	11	21	10.5		108.3	5	1	5
Danbury	21.981	37	5	7	33	18.0	1.6	23.0	1	2	12
Derby	12,279	44	3	6	18	17.6	2.0	27.5	1	6	2
East Hartford	13.274	12		3	6	5.4	0.9	88.2	1		2
Enfield	12,629	19		11	14	13.3	1.0	40.5	1	3	4
Fairfield	13 950	27		4	16	13 8	0.9	173.9	3	2	7
Glastonbury	5,960	9	1	1	4	8.1	2.0	142.9	1		3
Greenwich	24.674	37	4	42	25	12.2	1.0	54.9	2	7	6
Groton	10,493	8		4	7	8.0	1.1	152.9	2		2
Hamden	9.890	23		4	8	9.7		68.2	1		5
Hartford	156,169	346	12	105	157	12.1	1.2	58.9	19	7	49
Killingly	8,905	15	1	5	11	14.8		206.8	3	1	4
Manchester	20.561	37	1	11	13	7.6	0.6	117.1	4		5
Meriden	36.014	61	1	12	45	15.0	1.0	141.1	9	2	19
Middletown	22 554	40	2	8	52	27.7	1.6	61.9	3	4	20
Milford	12.893	10		3	10	9.3		153.8	2		8
Naugatuck	16,130	15		7	5	3.7				1	1
New Britain	66.370	145	4	23	51	9.2	0.2	116.5	16	4	9
New Haven	175,827	360	14	114	191	13.0	0.5	85.2	28	12	55
New London	28.421	58		22	38	16.0	0.4	32.0	2	1	13
Norwalk	29,292	57	4	23	38	15.6	0.4	41.0	2		18
Norwich	30,303	70	6	18	52	20.6	0.8	105.9	7	3	15
Plainfield	8.465	10		10	5	7.1		75.5	1		3
Plymouth	6 315	8		1	4	7.6		117.6	1		2
Putnam	8.894	14	2	8	18	24.3	2.7	61.5	1	1	4
Seymour	7.705	10	1	2	7	10.9		216.2	2		1
Shelton	10.833	15	1	2	17	18.8		63.5	1	1	5
Southington	9,331	14	2	6	11	14.1		122.4	2	1	6
Stafford	5,456	19	1	1	8	17.6		84.5	1	1	2
Stamford	15,157	81	4	34	43	11.4	0.5	90.1	8	3	10
Stonington	10.718	16	1	4	2	2.2	2.2				2
Stratford	15.422	21		6	13	10.1	0.8	110.6	2	1	5
Thompson	5,171	16		2	3	7.0					1
Torrington	24 055	46	3	7	20	10.0	0.5	53.8	2	3	6
Vernon	8.822	14	1	3	8	10.9	1.4	93.0	1		5
Wallingford	12.405	17		4	13	12.6		131.1	2	1	9
Waterbury	100 291	167	9	52	110	13.2	0.5	112.3	21	10	28
Watertown	7.016	6		4	4	6.8		220.1	2		1
West Hartford	10,729	10		2	10	11.2		136.4	2		3
West Haven	17.354	31	2	8	26	18.0	0.7	129.0	4		9
Westport	5.509	8		1	8	17.4					4
Winchester	9 095	14	1	5	12	15.8	1.3	110.6	2		6
Windham	14.265	24		4	17	14.3		66.7	2	1	7
Windsor	6.287	7		1	2	3.8		137.9	1		1
Towns under 5,000	212 439	217	9	74	211	11.9	0.6	100.7	25	1	104

for the month of January, 1924

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis—Pulmonary	Tuberculosis—Other Forms	Cancer	Meningitis—Cerebro-Spinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea and Enteritis under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
225	2	12	1	7	8	9	18	24	87	14	125	1	1	75	84	21	26	88	6	4	504	243
1						1								3	2	1		1				
1									1	1	1			1								
15		3				1	2	2	4		22	1		9	7		3	8	1		57	13
2							1			1	1			1	1			4			4	5
3			1						1		3			5	1		2	2			10	5
1						1	1		2					1	1		1	4			7	7
2										1												1
3					2		2		1	1								1				1
2								1	1		1				2	1		2	1			5
1											1				1							
2				5	1			1	2	1					1						6	1
									1													
3											1											
20	1	1		1			2	1	10	3	13			10	8	2	3	4	1		79	35
1								1										3				
1															1		1	2			5	1
5								2	2		4			2	3			1			17	4
10		1							5		3		1	3	2		1	5	1		27	22
3											1										2	1
1											2											
4		1				1		1	2					5	2	2	3	5			14	4
29		1			4	2	1	4	4	2	18			8	14	5	3	11			94	32
12							1				6			1		1		3			15	7
5									1		5			4	1		1	1			4	
10							2	3	7		1				4	2		1		2	24	13
											1						1					
															1							
3								1	2		4				1				1		6	4
1											1											
1								2	10						1						10	10
1										1	2			1	2			1				
1															2		1	1			3	
4										1	6			1	4	1		3			11	4
2																						
3		1					2		1		1							1				1
1																						
						1		1	1		1			3		1					5	
1									1		1				1		1	1			2	
3		2													1			1	1		4	
10		1			1		3	2	2		9			8	10		2	9		2	44	8
										1					1							
1														1				1			5	3
1		1				1			6		1			3	2	1	1	1			8	8
4																						4
3									1												2	2
3							1	1			1										3	2
1																						
44	1			1		1		1	19	1	14			5	7	4	2	11			36	40

HELP MARCH WINDS KEEP CONNECTICUT CLEAN



THE ANNUAL CLEANING SEASON IS HERE

Now is the time to make a clean sweep of all dirt and filth that has accumulated during the winter season. Disease germs may lurk in the corners, ready to take on new life. Filth should not be allowed to collect, but should be completely destroyed.

M. H. No. 1

MENTAL HYGIENE

Supplement to March Health Bulletin, Vol. 38, No. 3, 1924

Connecticut State Department of Health

Stanley H. Osborn, M. D., Commissioner

Hartford, Conn.

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THE RELATION OF HEREDITY TO MENTAL DISEASE

Reference in a recent issue of the Monthly Health Bulletin, to the great problem of mental disease throughout the country in general and Connecticut in particular, has quite possibly caused some curiosity and speculation as to the cause or causes of mental disorder. It may be stated that there is no one cause of mental disorder but that there are certain so-called essential causes. The presence of at least one of these is necessary for the development of mental disorder.

These essential causes are **exogenous poisons,** such as alcohol and drugs; **endogenous poisons** arising within the body during the course of somatic disease, such as the infections, diseases of the ductless glands, etc., **organic brain lesions,** represented in part by cerebral arterio-sclerosis, cerebral tumor and encephalitis; **syphilis;** and **heredity.** It is obvious that certain of these essential causes overlap; thus syphilis by causing cerebral gummata or arterio-sclerosis makes the cause an organic brain lesion; but inasmuch as syphilis is the only cause of general paresis it is justifiable to consider it a distinct essential cause. In many cases, heredity is undoubtedly overlapped by other essential causes, heredity being the real essential cause and one of the others merely acting as the exciting cause. The argument that heredity is the only essential cause is not without some justification. There are instances where certain members of a family become delirious during the course of somatic disease such as lobar pneumonia or influenza while other persons with similar disease of equal severity remain mentally clear. In a like manner certain persons exhibit a marked susceptibility to alcohol, developing one of the alcoholic psychoses, while others remain unaffected mentally by corresponding amounts. Only about four percent of people infected with syphilis develop general paresis. This has been ascribed to there being strains of treponema pallidum of varying virulence or with affinity for nervous tissue, but it may well be due to an inherited susceptibility of the nervous system which paves the way for the invasion of the organism.

It is some one of these essential causes which predisposes an individual to mental disease. It is quite possible that an essential cause itself is in certain cases alone necessary for the development of a psychosis but it is more probable that to the essential cause is added a contributing cause in the form of some environmental difficulty, in its broadest accepted meaning, which acts as a detonator.

The fact that nervous and mental diseases are often transmitted from parent to offspring has been known since the time of Hippocrates. It is probable that transmission occurs in accordance with the laws of the Mendelian theory, but in an exceedingly complex and as yet ill-defined way. Among descendants and collateral relatives of psychotic patients are found not only similar mental disorders but such unrelated conditions as epilepsy, migraine, vagrancy, criminality, sexual irregularities and alcoholism.

By the formulas of the Mendelian theory the number of neuropathic offspring to be expected from the mating of neuropathic parents may be calculated with a considerable degree of mathematical precision and with the theoretical expectation indicated below, as quoted from Rosanoff.

"Both parents being neuropathic all children will be neuropathic.

"One parent being normal but with the neuropathic taint from one grandparent, and the other parent being neuropathic, half the children will be neuropathic and half will be normal but capable of transmitting the neuropathic taint to their progeny.

"One parent being normal and of pure normal ancestry and the other parent being neuropathic, all the children will be normal but capable of transmiting the neuropathic taint to their progeny.

"Both parents being normal but each with a neuropathic taint from one grandparent, one-fourth of the children will be normal and not capable of transmitting the neuropathic taint to their progeny, one-half will be normal but capable of transmitting the neuropathic taint, and the remaining one-fourth will be neuropathic."

"Both parents being normal, one of pure normal ancestry and the other with the neuropathic taint from one grandparent, all the children will be normal, half will be capable and half not capable of transmitting the hereditary taint to their progeny.

"Both parents being normal and of pure normal ancestry, all the children will be normal and not capable of transmitting the neuropathic taint to their progeny."

Rosanoff and Orr in the study of 1907 children, the issue of 206 matings, actually found 351 neuropathic offspring while the theoretical expectation was 359.

The frequency of hereditary mental disease has been the bone of contention among various authorities for many years, various authors estimating the frequency of hereditary cause anywhere from 15.5 to 90 percent. Dr. Maudsley has stated conservatively that the most careful researches agree to fix it

as certainly not lower than one-fourth, probably as high as one-half and possibly as high as even three-fourths. Most authorities now assume that manic-depressive insanity, involutional melancholia, dementia precox, paranoid states, the psychoneuroses and especially mental deficiency, epileptic psychoses, constitutional psychopathic states, and Huntington's chorea develop on an hereditary basis: that is, they are due to certain abnormal characteristics inherited through the germ plasm. It is not implied that a father transmits manic-depressive insanity directly to his son or a mother dementia precox to her daughter, although this has been observed, (Berze reporting a case of dementia precox in a father and three sons and another case of a man, his daughter, and her two children.) Neither is it implied that a neuropathic tendency is transmitted to offspring in every case of mental disease in a parent. It is probable that a nervous tissue defect, a hypersusceptibility of the nervous organization to certain vicious factors is transmitted, which acts as the essential soil upon which the seed or exciting cause is sown in the form of continued nerve strain or exhaustion or severe emotional shock or excesses of one kind or another, the combination of unfavorable circumstances resulting in the mental break. There are many persons who have inherited a nervous predisposition, who never develop mental disorder. In these cases either the person is capable of transmitting the qualities necessary for mental disorder although not exhibiting mental disorder himself, or his daily life has been so well ordered, so hygienic, so free from excess that there has been no contributing cause; in other words, one of the elements necessary for the nervous equation is lacking and there is no reaction.

For the purpose of theoretically demonstrating the relative importance of heredity as an essential cause of mental disease the table below is presented. It indicates the respective numbers of the various psychoses admitted during a recent year to one of Connecticut's State Institutions and to one of it's largest private psychiatric hospitals.

The apparent essential cause of each psychosis has been added to the table.

FORM OF DISORDER	Private Hospital No. cases	State Hospital No. cases	ESSENTIAL CAUSE
Alcoholic psychoses	6	23	Exogenous poison
Drug	2		Exogenous poison
	8	23	
With somatic disease	15	5	Endogenous poison
Traumatic	3		Organic brain lesion
Senile	17	20	Organic brain lesion
With cerebral arterio-sclerosis	19	26	Organic brain lesion
With brain tumor	0	0	Organic brain lesion
With other brain disease ...	8	2	Organic brain lesion
	47	48	
General paralysis	8	16	Syphilis
With cerebral syphilis		2	Syphilis
	8	18	
Manic-depressive	54	36	Heredity
Involutional melancholia ..	17	10	Heredity
Dementia precox	52	62	Heredity
Paranoid conditions	10	9	Heredity
Epileptic	1	4	Heredity
With mental deficiency	1	8	Heredity
With constitutional psychopathic inferiority	3	1	Heredity
Psychoneuroses	15	2	Heredity
	153	132	
Undiagnosed psychoses	14	11	Unknown

Note—This table is condensed from hospital reports.

From these estimates it is seen that in the State Institution approximately 58% and in the private hospital approximately 66% of the cases were forms of disorder ascribed to heredity. These figures correlate closely with an estimate recently made in the New York State Hospitals, where in about 60% of the cases heredity was considered the probable essential cause.

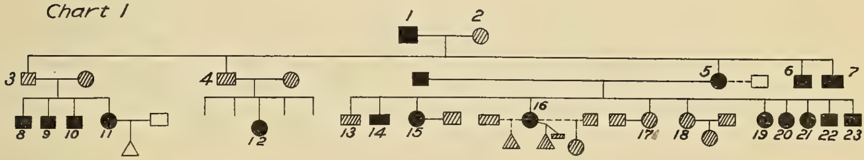
Unfortunately, as yet, all cases of mental disease can not be explained satisfactorily by the Mendelian theory. It is in mental deficiency that its transmission most closely follows this theory and even here not in strict accordance with it. Mental deficiency is an inherited trait in approximately 80% of the cases, the remaining 20% being due to birth injuries, syphilis, endocrine disturbance, etc. When both parents are feebleminded, nearly all of the offspring are feebleminded. When one parent is normal and other is feebleminded approximately 37% of the offspring are feebleminded. Occasionally mental defectives are encountered as the progeny of normal parents. In this case one or both parents are probably heterozygous, that is, normal but capable of transmitting the defect.

The social aspect of mental deficiency is one of enormous importance as this class reproduces a large proportion of our antisocial. Authorities have placed the percentage of feebleminded

in the penal institutions as 25% to 35%. Probably 50% of prostitutes are feebleminded and 25% of our migratory unemployed (hoboes). It is not the lower grades of arrest of development that constitute the problem, as they early attract attention to themselves and are segregated, but the higher grades who, although distinctly antisocial, have enough low cunning to escape segregation for some time. The feebleminded tend to produce offspring of their own kind and often without the ceremony of marriage. They tend to congregate in communities and to marry persons of like mentality (female defectives usually are found to marry males of slightly higher mentality). The great fecundity of mental defectives offsets to a certain extent the high mortality due to the susceptibility of the offspring to disease.

Numerous charts could be presented to demonstrate how frequently mental disease is transmitted through generations. Appended are charts selected as typical from the studies of a few of the degenerate families that have been found in Connecticut.

Chart 1



1. Simple "harmless".
2. Unknown.
3. Unknown.
4. Unknown.
5. Deficient, deserted husband and eleven children, disappeared with a negro.
6. Mental defective.
7. Imbecile, sex pervert, danger to little girls.
8. Mental defective.
9. Imbecile, sex delinquent, indecent conduct.
10. Mental defective.
11. Vicious, one illegitimate child.
12. Mental defective, prostitute.
13. Unknown.
14. Vagrant.
15. Immoral, quarrelsome.
16. Mental defective, promiscuous, immoral, 3 illegitimate children.
17. Unknown, dead.
18. Unknown.
19. Mental defective.
20. Imbecile.
21. Imbecile, syphilitic.
22. Mental defective.
23. Mental defective.

Explanation—A "simple, harmless" man, married a woman of unknown mentality. The results of this union were two sons of unknown mentality, a mentally defective daughter who deserted her husband and eleven children and disappeared with a negro, and two mentally defective sons, one of whom was sexually perverted.

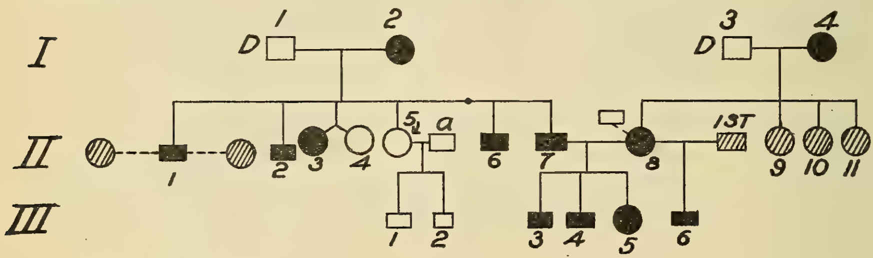
One of the sons of unknown mentality, married a woman of unknown mentality giving issue to three defective sons, one of

whom was sexually delinquent and indecent in conduct, and one daughter described as vicious and the mother of an illegitimate child.

Another son married a woman of unknown mentality, the result being a mentally defective daughter who became a prostitute.

A daughter, mentally defective, prior to deserting her husband of defective mentality, gave issue to one son and two daughters of unknown mentality, one vagrant son, one immoral daughter, one defective daughter, sexually promiscuous and the mother of three illegitimate children, two defective daughters, one imbecile daughter who was a congenital syphilitic, and two defective sons.

Chart 2



Paternal

I. 1. Normal.
2. Maniacal attacks, sometimes in State Hospital.

II. 1. Insane.
2. Hard drinker—insane.
3. Very nervous, "has spells."
4. Normal.
5. Normal—(a) normal.
6. Mental defective.
7. "Nervous" inferior intelligence.

Maternal

3. Normal.
4. Immoral, alcoholic, deserted husband and children.

8. Deserted husband and children Present marriage probably not legal.
9. Unknown.
10. Unknown.
11. Unknown.

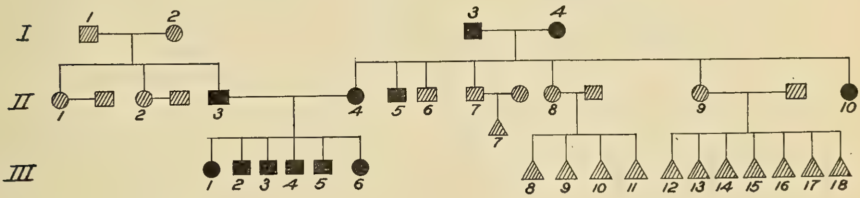
Fraternal

III. 1. Normal.
2. Normal.
3. Epileptic, imbecile, cripple.
4. Imbecile, thief, vicious.
5. Irresponsible, wayward.
6. Mentally deficient.

Explanation—A normal man married a woman subject to maniacal attacks. The results of the union were two insane sons, twin daughters one of whom is normal, the other nervous and subject to "spells", and two sons, one of whom is mentally de-

fective, the other nervous and of inferior intelligence. This last son married the daughter of a normal man and an immoral, alcoholic woman who had deserted her family. This daughter by a previous mating gave issue to a defective son and by this, her second marriage, to an irresponsible wayward daughter and two sons, one a crippled epileptic imbecile, the other a thieving vicious imbecile.

Chart 3



Paternal

I. 1. "American", mental condition unknown.
2. French, mental condition unknown.

II. 1. Mental condition unknown.
2. Mental condition unknown.
3. Alcoholic, illiterate, immoral, thief, deserter of family, "old bum".

Maternal

3. "Simple-minded."
4. Mentally defective.

4. Suicide.
5. Mentally defective.
6. Unknown.
7. Unknown.
8. Unknown.
9. Unknown.
10. Mentally defective.

Fraternal

III. 1. Died in infancy.
2. Mentally defective.
3. Mentally defective.
4. Mentally defective.
5. Mentally defective.
6. Mentally defective.
7-18. Mental condition unknown.

Explanation—An American of unknown mentality married a Frenchwoman of unknown mentality. The results of this union were two daughters of unknown mentality and one son described as alcoholic, illiterate, immoral, a thief, a deserter of his family, an "old bum." This son mated with a woman who suicided, the daughter of a "simple-minded" man and a mentally defective woman and the sister of a mentally defective brother, two brothers and two sisters of unknown mentality and one mentally defective sister. The issue from this union

was one daughter who died in infancy, four mentally defective sons and one mentally defective daughter.

In conclusion therefore, it may be stated that heredity is one of the most formidable of the essentiai causes of mental disease, but also one of the most vulnerable. It can not be attacked as readily as the cause exogenous poison, (alcohol, drugs, etc.,) against which legislative measures have been taken or the cause syphilis, against which public health campaigns have been instituted, but it can be attacked just as successfully, if equally stringent measures are applied. Certainly it is more open to attack than endogenous poison (physical disease, etc,) and organic brain lesions, (arter-sclerosis, etc,) over which but little control in the way of prevention can be exercised.

There is one way by which heredity as a cause of mental disease can be eliminated and that is by the prevention of the propagation of mentally unhealthy stock. This presupposes the avoidance of union between man and woman, one or both of whom because of preexisting or existing mental disease would transmit a mental defect of such degree to offspring, who although reared in the most hygienic environment, would succomb to mental disease.

This is the first of a series of articles dealing with problems of mental diseases with a special emphasis on measures toward the conservation of mental health in Connecticut.

Regulation 5. Physicians to Report Communicable Disease.

Every physician or professional attendant having under his care or observation a person affected with or apparently affected with a communicable disease, shall report to the health officer or other health authority within whose jurisdiction such patient is, the full name, age, address and occupation of the patient with the name of the disease.

Such report shall be made by telephone, if practicable, and also in writing within twelve hours after his recognition of the disease, Provided,

(a) In reporting diseases of a venereal nature, a number shall be substituted for the name.

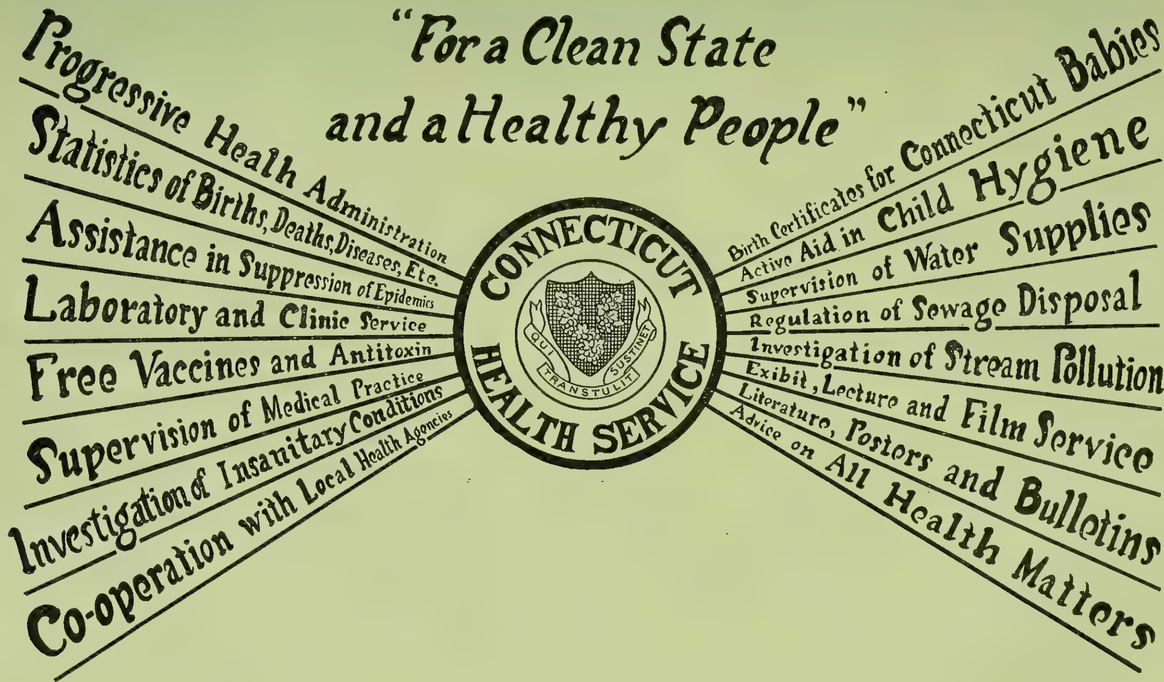
(b) In reporting tuberculosis, the report shall be made within twenty-four hours.

Diseases Reportable to the Local Health Officer

Actinomycosis	Gonorrhoea	Scarlet fever
Anthrax	Hookworm infection	Septic sore throat
Botulism	Influenza	Smallpox
Cerebrospinal meningitis	Leprosy	Syphilis
Chickenpox	Malaria	Tetanus
Cholera, Asiatic	Measles	Trachoma
Conjunctivitis, infectious	Mumps	Trichinosis
Diphtheria (all forms)	Paratyphoid fever	Tuberculosis, pulmonary
Dysentery, amoebic	Pellagra	Tuberculosis, other forms
Dysentery, bacillary	Plague	Typhoid fever
Encephalitis, epidemic	Pneumonia, lobar	Typhus fever
Favus	Poliomyelitis	Whooping cough
German Measles	Rabies	Yellow fever
Glanders		

Occupational Diseases Reported to the State Department of Health

P. A. 1923. Chap. 93. Section 2416 of the general statutes is amended to read as follows: Every physician having knowledge of any person whom he believes to be suffering from poisoning from lead, phosphorous, arsenic, brass, wood alcohol or mercury or their compounds, or from anthrax, or from compressed-air illness **or any other disease, contracted as a result of the nature of the employment of such person, shall, within forty-eight hours,** mail to the **state department of health** a report stating the name, address and occupation of such patient, the name, address and business of his employer, the nature of the disease and such other information as may reasonably be required by said **department. The department shall prepare and furnish to the physicians of this state suitable blanks for the reports herein required.** No report made pursuant to the provisions of this act shall be evidence of the facts therein stated in any action at law against any employer of such diseased person. Any physician who shall fail to send any report herein required or who shall fail to send the same within the time specified herein, shall be liable to the state for a penalty of not more than ten dollars, recoverable by civil action in the name of the state by said **department. For each such report the physician making the same shall receive a fee of fifty cents, to be paid by the state department of health as a part of its office expenses.**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and a Healthy People"
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Assistance in Suppression of Epidemics
Laboratory and Clinic Service
Free Vaccines and Antitoxin
Supervision of Medical Practice
Investigation of Insanitary Conditions
Co-operation with Local Health Agencies
CONNECTICUT
QUI TRANSTULIT SUSTINET
HEALTH SERVICE
Birth Certificates for Connecticut Babies
Active Aid in Child Hygiene
Supervision of Water Supplies
Regulation of Sewage Disposal
Investigation of Stream Pollution
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Advice on All Health Matters

State of Connecticut Health Bulletin

"*For a Clean State and a Healthy People*"

Vol. 38 April, 1924 No. 4

This Issue Contains

STANLEY H. OSBORN, M. D., C. P. H., Commissioner.

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State Department of Health

HARTFORD

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CONNECTICUT
HEALTH BULLETIN

Vol. 38 April, 1924 No. 4

Issued Monthly by the
STATE DEPARTMENT OF HEALTH

THE WASSERMANN TEST FOR SYPHILIS

Having been introduced to the secrets of laboratory technique on former occasions, a return visit was made on a certain Thursday to search out still more interesting facts in the Laboratory's control of disease. Arriving on the heels of the morning's mail delivery, one was impressed with the number of specimens which had been received. The K. L.'s had already been checked and placed in the incubator for later examination. But here in the receiving room one was appalled at the number of specimens still to be opened. While this was being done, it was interesting to note that the usual careful procedure was followed as to checking of card and vial. One was informed that while specimens are received for the Wassermann test daily, the test itself is carried out twice each week, the first set of tests being started Tuesdays and completed Wednesdays and the second set being started on Thursdays and completed Fridays.

Searching for evidence of syphilis is not a simple matter. In the very beginning of the disease the examination of material from the so-called primary sore may show the presence of the organism causing the disease. But the test commonly made is known as the Wassermann reaction. This is complicated but when strongly positive gives definite evidence of the presence of the disease. When negative it does not definitely exclude it.

Preparing specimens for the Wassermann Test

As one noted the array of specimens spread out on the table ready for the subsequent test, one's imagination was fired with the semblance to soldiers marching on to their destination—back of every sample stands a patient whose body may or may not harbor the germs of this dread disease, but the samples passing on through the steps of the intricate Wassermann test will indicate their presence as well as the improvement in the disease when the specimens are sent in at regular intervals during its treatment.

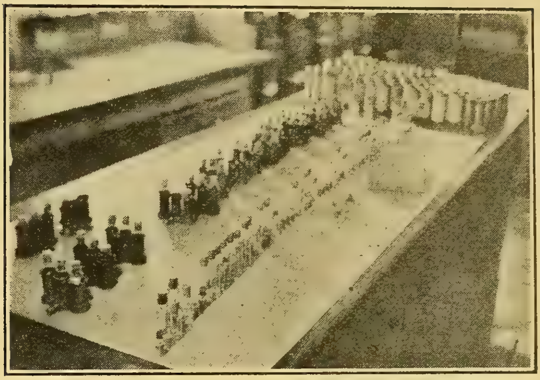


Figure 1. One day's supply of specimens for the Wassermann test

In Figure 1 is shown eighty samples ready for the first step in the Wassermann test. Each vial is numbered to correspond to the card. Contained in each vial is enough of the patient's blood to secure at least 1 c. c. of serum.

The blood clot is first removed with wooden applicators and discarded. This facilitates later pouring of the blood serum. The vials are then centrifuged for 5 minutes in the little holders shown in Figure 3, in the centrifugal machine shown at the right. Twenty-four of these vials may be centrifuged at one time. While this is being done, corks are numbered to correspond to the numbers on the vials.

Centrifuging results in the separation of serum from the blood cells, and the serum is poured off into a new vial and stoppered with the cork which corresponds to the number on the original vial. This is shown in Figure 2.

Figure 2. Pouring the serum from centrifuged blood specimens

The serum is now ready for the Wassermann test. This test

depends upon four carefully prepared reagents. These are:

1. The antigen, or alcoholic extract of beef heart.
2. The complement contained in fresh guinea pig blood serum.
3. Red blood cells obtained from a sheep.
4. Blood serum from a rabbit previously made immune to sheep cells, this being known as amboceptor.

Reaction of the Body to Diseased Germs

To get a clear idea of the action of these various reagents employed in the Wassermann test it is necessary to understand certain facts about the reaction of the body to disease germs. When these germs enter the body there are manufactured by the body certain substances called anti-bodies. In many cases these render the body immune to that organism thus serving as a defense against the disease. In a person who has syphilis the body usually manufactures special "antibodies" and the Wassermann reaction is a test for the presence of these antibodies in the blood stream.

After separating the serum from the blood corpuscles it is heated at 55°—56°C. for fifteen minutes to destroy a substance normally present in fresh blood serum and known as complement. As this is present in unknown quantity it is desirable to remove it before starting the test. There is then added to a minute measured quantity of the blood serum prepared as above descirbed O. 1. c. c. of antigen prepared from beef heart, and O. 1. c. c. of complement in the form of fresh guina pig serum diluted with salt solution. If a patient has syphilis the serum contains antibodies which act to unite the antigen and the complement, binding these closely together after they have been kept in the icebox several hours. There is now added a definite amount of a combination of sheep cells and amboceptor as described above. If the patient has syphilis the antibodies in his blood serum have used up the complement present and prevent the destruction of the red cells which have been added. The result is a turbid suspension which is very clearly noted. If this tube is put in the centrifuge for a few moments the corpuscles are thrown to the bottom of the tube and the liquid above these is entirely colorless in a strong positive test. If no syphilitic corpuscles are present in the blood serum the red blood corpuscles are destroyed by the amboceptor and complement present and this results in a clear, transparent red liquid very different from that obtained when the patient has syphilis. When the test is properly carried out the opaque suspension indicates definitely the presence of syphilis. On the contrary, the deep red transparent liquid indicates a negative result, though it does not definitely exclude syphilitic infection.

Reagents for the Wassermann Test

Let us again turn to the laboratory and learn something of the technique of the Wassermann test, first the preparation of the reagents, for on the care with which these are made depends the accuracy of the test.

The antigen. Originally it was thought necessary in the making of the Wassermann test to use human tissue containing syphilitic germs but later it was shown that an extract of normal beef heart or other tissue, could be used as well for the preparation of the antigen.

The complement. This is secured from the blood of normal guinea pigs. Six guinea pigs are bled and the blood allowed to stand for several hours, after which the clot is removed. The blood is centrifuged and the clear serum is pipetted off. If the serum is from guinea pigs which have not been used for this purpose before, the blood from each pig is tested to make sure that it does not, of itself, haemolyze or dissolve red blood cells. A haemolytic serum is not suitable for the test. The non-haemolytic sera are pooled and constitute the "complement." The complement is titrated daily with the sheep cells and amboceptor which are to be used. Its strength is determined in this way and a corresponding dilution of the complement is made for the tests.

Sheep cells. The preparation of these cells demands great care and covers many steps. For this purpose blood is secured under aseptic conditions once a week from sheep which lead the happy existence of grazing on the park green. Of this weekly supply of sheep's blood, 5 c. c. amounts are put

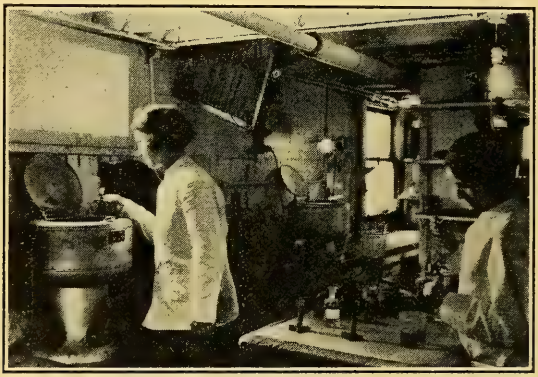


Figure 3. Preparation of sheep cells for making the Wassermann test

in eight special graduated centrifuge tubes, filled up to the 15 c. c. mark with sterile physiological salt solution, and centrifuged for 7 minutes.

Figure 3 shows the worker at the left ready to centri-

fuge such a tube. At the end of this time the red cells are thrown down and the supernatant liquid is removed with a pipette and discarded. The worker at the right of figure three is shown performing this step. Physiological solution is again added and the tube is again centrifuged. This is repeated about four times, or until the supernatant liquid becomes quite clear. To make sure that the red cells have been sufficiently washed with the salt solution the liquid is tested with nitric acid; if no cloudiness results, the serum has been completely removed. This is now made up for the last time with physiological salt solution, and centrifuged for 15 minutes. There will be found from 1½ to 2 c. c. of packed red blood cells in the bottom of the tube from which the liquid is finally removed. Being in a graduated tube the measure of the red cells is available and this is made up with normal salt solution to secure a 5 per cent suspension. The cells are now ready for the tests.

The amboceptor is blood serum from a rabbit which has been made immune to sheep cells. To secure this serum a rabbit is injected once every three or four days with 2 c. c. of a 25 per cent suspension of sheep cells which have been washed as described above. This is repeated for four injections after whch the rabbit is etherized and bled from the jugular vein. Forty-five to 50 c. c. of blood are withdrawn. This is allowed to stand in the ice-box at 8°C. over night. The clot is removed and the blood centrifuged after which the clear serum, about 20 c. c. from each rabbit is pipetted off. This is fairly stable, but it is titrated once a month to make sure the titre is right, a range of 1:1500 or 1:2500 being desirable.

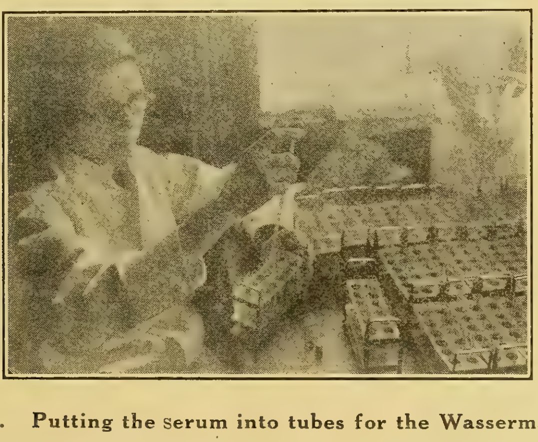


Figure 4. Putting the serum into tubes for the Wassermann test

Sensitized Cells. The sheep cells, washed and in suspension as described, and the amboceptor, properly diluted, are

now combined. These are mixed well and put in the water bath at 37.5°C. for one-half hour to sensitize the cells.

From this review of the preparation of the reagents for the Wassermann test one is convinced that the procedure is not a simple one. One also understands why the Wassermann test can be made only twice a week. On Tuesdays and Thursdays the pigs are bled for the complement, the sheep cells are washed, the reagents titrated to secure the proper dilutions and the first steps in the Wassermann test are made.

Figure 4 shows the procedure at this point. The worker is placing a measured amount of the patient's serum into the tubes which have been marked to correspond to the vial number. The small vials containing the patients' sera are shown at the center rear, a measured amount having been withdrawn from the individual vial shown in the foreground The rack held by the worker contains four sets of tubes, each individual test requiring three tubes.

Figure 5. Adding the antigen and complement

Two antigens are used in the Wassermann test. One of these is the alcoholic extract of the beef heart. The other is a similar extract to which cholesterin has been added. Plain alcoholic antigen is made more sensitive by the addition of cholesterin. The Wassermann system, as carried out at the State Laboratory, is to run a 1-tube test with both antigens and a subsequent 3-tube test on all sera which are not negative. This latter is to determine how strong the positive reaction for syphilis is in each particular serum. The 1-tube preliminary test is as follows. Each tube contains:

Patient's serum .02 c. c.
Antigen .1 c. c.
Complement .1 c. c.

Figure 5 shows the workers adding this antigen and complement.

The tubes containing the plain antigen are then kept over night in the icebox and those with cholesterinized antigen are kept two hours in the icebox. There is then added to each tube O.2 c. c. of sensitized sheep cells. The tubes are then put in the waterbath at 37.5° until the negative controls become clear; that is haemolyzed. This is shown in Figure 6, with the worker at the right watching the negative controls. With each set of tests there is a positive control; that is, a pooled serum from persons known to give the reaction for syphilis, and a negative control, that is, pooled serum from individuals who do not have the disease. In addition there is required for each set of tests a titration of the antigen to make sure that the correct dilution is being used. Also, with each eleven racks there is a so-called antigen control, to make sure when the tests are ready to be read. A three-tube test is similar in principle to the one-tube test except that different quantities of serum are used in the tubes in order to more accurately find out the extent of the positive reaction.

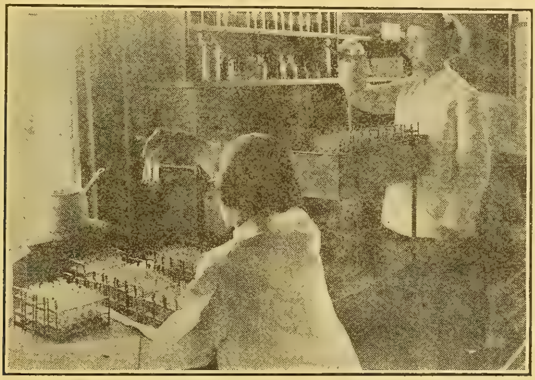


Figure 6. Watching for the negative controls to become clear; and reading the reactions

Figure 6 shows the tests completed and the worker at the left reading the results. If the reagents have been accurately prepared and the conditions at all points carefully controlled, as described, the results may be easily read. The third tube at the right, held by the worker seated is the serum control tube with which the other two tubes are compared.

Interpretation of Wassermann Test

Centrifuged tubes with clear liquid and unchanged red cells in the bottom, as explained previously, indicate syphilis, while at the other end of the scale the tubes which are bright red throughout show a negative result, or no indication of syphilitic infection. This, however, does not definitely exclude the

disease. Colorations between these two points are interpreted as questionable reactions. The results are recorded in the book under various headings, plain antigen, cholesterinized antigen, or repeated test, a report appearing under each column after the specimen number which has been recorded at the left. As a rule the results with both antigens correspond, in which case the report is not difficult to make. But should they vary, as for instance, + ± with plain antigen, and ++++ with cholesterinized antigen, the test is repeated. Reports which are recorded as ++++ indicate a strong reaction, whereas ++ or + indicate a doubtful reaction. The card which accompanies the specimen indicates whether it is for diagnosis or whether the patient has already received treatment. This information is not made use of in interpreting the results unless a very puzzling reaction is obtained. The report is returned to the physician who sent the specimen. This gives him information as to the disease and enables him to begin or continue treatment as indicated.

While the Laboratory is making this test on large numbers of samples (350-400) each week, it is in a position to increase this service. The Wassermann test, being one of the most accurate methods for diagnosing a specific disease if it is strongly positive, no doubtful case of syphilis should be turned aside without the full benefit of this information. Diagnosis of syphilis in its early stages, like many other diseases, makes possible an early and effective treatment which, if delayed until later stages of the disease have developed, may make a cure impossible and lead to far reaching results which may effect future generations.

Laboratories

Report for March, 1924

DIAGNOSTIC DIVISION

	+	—	?	Total
Typhoid	....	21	6	27
Paratyphoid A	....	27	....	27
Paratyphoid B	....	27	....	27
Diphtheria:				900
Diagnosis	66	434	....	
Release	66	334	....	
Diphtheria Carriers:				170
Diagnosis	2	168	....	
Release	....	....	....	
Diphtheria Virulence	5	2	....	7
Tuberculosis	17	124	....	141
Syphilis	181	1,175	87	1,443
Colloidal Gold Test on Spinal Fluids	9	13	....	22
Gonorrhoea	18	34	....	52
Glanders	....	....	....	....
Pneumonia:				....
Type I	....			
Type II	....			
Type III	....			
Type IV	....			
Malaria	....	2	....	2
Rabies	....	2	....	2
Feces for Hookworm Ova	....	6	....	6
Feces for Paratyphoid A	1	....	....	1
Feces for Typhoid	....	6	....	6
Feces for Amoeba	....	4	....	4
Urine for Typhoid	....	6	....	6
Special	....	....	....	....
Totals	365	2,385	93	2,843

CHEMICAL DIVISION

Milk Examination

Number of towns sending samples	20
Number of samples tested	217
Number of samples below fat standard	19
Number of samples showing low refractive index, indicating watering	0

Water Examination

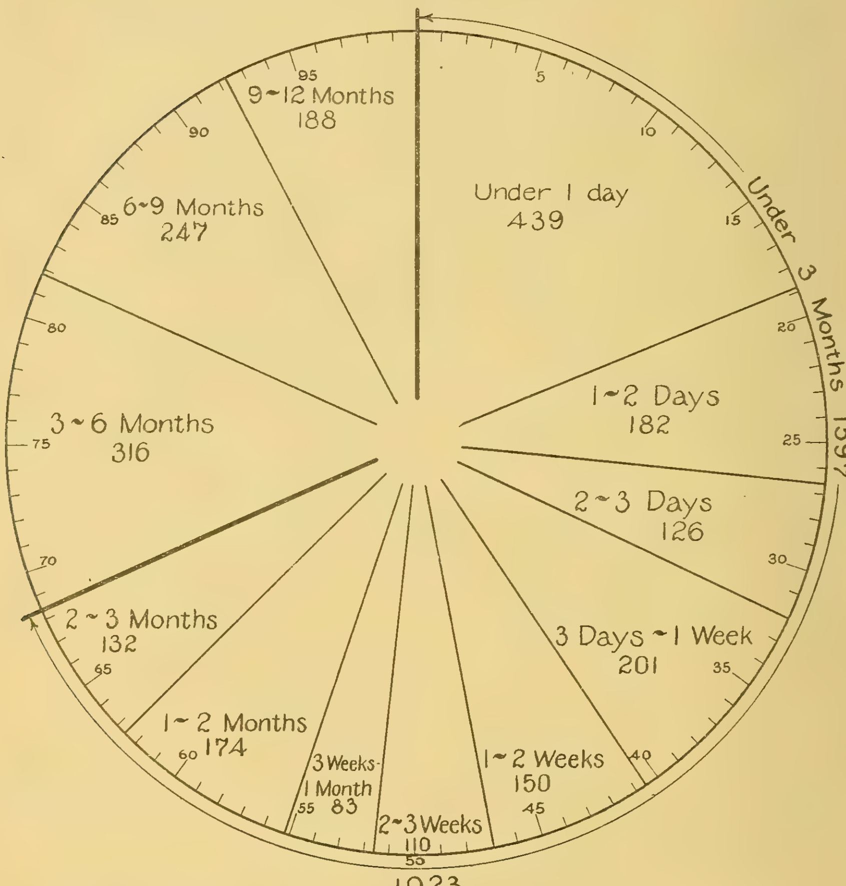
Number of towns sending samples	47
Samples of water examined	105
Samples of sewage examined	2
Total number of samples examined in the division of chemistry during the month of March, 1924	322

CLINICAL THERMOMETERS

Number of thermometers passing test	107
Number of thermometers rejected	11
Total number of thermometers tested	118
Number of thermometers certified	63

Vital Statistics

INFANT MORTALITY, 1923



CONNECTICUT INFANT MORTALITY

Ratio of certain age groups to total deaths under 1 year
Subdivided for percentage comparisons

On page 90 a detailed analysis of the Infant Mortality for 1923 is given. It also exhibits twelve subdivisions of the

year, showing the grouping of the causes set forth with respect to age of the individual at death.

One feature of this table is immediately apparent—namely, that almost exactly 25 per cent of the total deaths were due to Premature Birth. If it were possible to save one half of these lives, the infant mortality would have been 67.2 instead of 76.6. This figure, 76.6, is the latest revision of the infant mortality rate on the basis of 2,348 deaths and 30,645 births. It is somewhat less than previously published figures owing to the fact that delinquent birth records are continuously being received.

The other outstanding features are the mortality from diarrhoea and enteritis, and broncho pneumonia. These two diseases start at about the same period of life in the figures under discussion and rapidly gathering momentum they sweep through the entire year, and, combined, cause appriximately another 25 per cent of the total deaths. If we include lobar pneumonia and influenza with diarrhoea and broncho pneumonia, we shall arrive at a total considerably more than 25 per cent of the total deaths. We now have accounted for more than 50 per cent of the total deaths under the headings of early infancy (premature birth), influenza, diseases of the respiratory system and diseases of the digestive system.

These considerations emphasize the necessity, first, of careful and conscientious prenatal care; second, care of the child after birth with respect to feeding and clothing. The outside world is a decided shock to a new born baby. It is cold, for one thing. Even the softest clothing is irritable to tender skins and it is but natural that it should be kicked off. Its warmth giving properties are not in the least understood or appreciated. It is through this period of acclimatization that parents must be forever vigilant. But not until the pneumonias are greatly reduced from their present mortality can results be considered successful.

In 1923 a decrease was experienced for broncho pneumonia over 1922, there being 43 less deaths. And similarly 12 less deaths from lobar pneumonia. Influenza increased 5. Diarrhoea and enteritis deaths were reduced 88, there being 266 in 1923 and 354 in 1922. This is encouraging. But we have increases of 44 and 20 in causes which are already too high—namely, premature birth and injury at birth. The actual figures are, premature birth, 1923, 588; 1922 544; injury at birth, 1923, 177; 1922, 157.

If we take the deaths of those who died under 1 week as a base and refer later ages to this base, certain interesting percentage comparisons may be effected, to show the explosiveness with which certain diseases develop. For instance, let us calculate in round numbers the percentage increases of deaths under 1 month over those deaths which occurred under

INFANT MORTALITY IN CONNECTICUT—1923

Deaths Under 1 1923	Under 1 Day	*1-2 Days	†2-3 Days	3 Days to 1 Week	Total Under 1 Week	1-2 Weeks	2-3 Weeks	3 Weeks to 1 Month	Total Under 1 Month	1-2 Months	2-3 Months	3-6 Months	Total Under 6 Months	6-9 Months	9-12 Months	Total under 1 Year
Totals	139	182	126	201	948	150	110	83	1291	174	132	316	1913	247	188	2348
Measles	—	—	—	—	—	—	—	—	—	—	1	6	7	22	22	51
Scarlet Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Whooping Cough	—	—	—	—	—	—	1	4	5	4	7	16	32	13	17	62
Diphtheria	—	—	—	—	—	—	—	—	—	—	—	2	2	3	4	9
Influenza	—	—	—	2	2	—	2	1	5	12	5	15	37	20	11	68
Dysentery	—	—	—	—	—	—	—	—	—	—	—	1	1	3	1	5
Erysipelas	—	—	—	—	—	—	2	—	2	3	—	1	6	1	—	7
Infantile Paralysis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Encephalitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Tetanus	—	—	—	—	—	—	—	—	—	—	—	—		1	—	1
Tuberculosis	—	—	—	—	—	—	—	—	—	—	—	2	2	2	2	6
Tuberculosis Meningitis	—	—	—	—	—	—	—	—	—	—	—	2	2	2	6	10
Tuberculosis, Other Forms	—	—	—	—	—	—	—	—	—	—	—	2	2	2	1	5
Syphilis	4	2	1	3	10	2	—	—	12	2	4	1	19	2	1	22
Simple Meningitis	—	1	1	—	2	2	2	2	8	2	1	5	16	2	2	20
Cerebrospinal Meningitis	—	—	—	—	—	1	—	—	1	—	1	4	6	1	2	9
Convulsions	—	—	—	2	2	—	—	1	3	4	1	3	11	3	1	15
Organic Diseases, Heart	—	—	—	—	—	1	—	—	1	1	—	1	3	1	1	5
Acute Bronchitis	—	—	—	1	1	1	4	4	10	8	3	7	28	4	6	38
Broncho Pneumonia	—	—	3	3	6	9	12	11	38	28	27	58	151	64	39	254
Lobar Pneumonia	—	—	1	2	3	2	3	—	8	6	4	15	33	16	11	60
Diseases, Stomach	—	—	—	—	—	2	—	4	6	6	3	9	24	1	1	26
Diarrhoea & Enteritis	—	—	1	4	5	8	13	10	36	25	34	77	172	55	39	266
Malformation	30	13	13	38	94	14	12	8	128	17	4	13	162	4	1	167
Congenital Debil.	6	8	6	23	43	21	15	9	88	26	15	27	156	6	3	165
Premature Birth	271	105	50	57	483	48	24	14	569	9	7	3	588	—	—	588
Injury at Birth	87	29	22	28	166	7	3	—	176	—	1	—	177	—	—	177
Early Infancy	28	20	16	24	88	20	7	5	120	1	—	2	123	—	—	123
Ill defined	3	1	3	—	7	—	1	—	8	1	2	1	12	3	—	15
All Other Causes	10	3	9	14	36	12	9	10	67	19	12	43	141	16	15	172

*1-2 Days, not including 2 days.
†2-3 Days, not including 3 days, etc.

1 week. We shall find that simple meningitis has increased 300 per cent; convulsions 50 per cent; acute bronchitis 900 per cent; broncho pneumonia about 500 per cent; lobar pneumonia about 200 per cent; diarrhoea and enteritis 600 per cent; malformation about 33 per cent; congenital debility 100 per cent.

Let us now change our reference base to deaths under one month and compare the deaths under 6 months, again using percentage increases with respect to this base. Whooping cough has increased about 550 per cent; influenza over 600 per cent; erysipelas 200 per cent; simple meningitis 100 per cent; convulsions about 300 per cent; acute bronchitis 180 per cent; broncho pneumonia 300 per cent; lobar pneumonia 300 per cent; diseases of the stomach 300 per cent; diarrhoea and enteritis 380 per cent; congenital debility 80 per cent.

These percentages would be truly startling if we had retained as the base the deaths under 1 week and referred all later deaths to this base. For example, it would then be found that the deaths of those under 6 months had increased 2400 per cent for broncho pneumonia and 3340 per cent for diarrhoea and enteritis. It is indeed fortunate that these base figures are small—but small as they may be, these huge percentage increases make them far from negligible at the end and emphasize the fact that when such diseases appear they rapidly become established and develop with alarming rapidity in infants during the first six months of life.

Certain broad figures may be derived from the table. Those who died under one day of life constituted 18.7 per cent of the total deaths; under one week, 40.4 per cent; under one month, 55.0 per cent; under six months 81.5 per cent. Those who died in the second six months of life made up 18.5 per cent of the total, which seems to indicate that children become accustomed to the world with creditable rapidity. By guarding against the accidents of exposure to disease, we may firmly hope that deaths during the first six months of life may be reduced to figures comparable to,—or better than those experienced during the second six monhs.

We may also derive the fact that the average life of children who died in the first six months of life was 35.45 days while those who died in the first year of life lived 77.82 days.

Month of Febuary, 1924.

Births

There was a slight increase in the number of births reported in February, 1924, over the corresponding month for 1923. The actual figures are 2,368 for 1924 and 2,339 for 1923, an increase of 29. The birth rates are not the same, however, the rate for 1924 being less than the rate for 1923, for the in-

creased number of births was not sufficient to offset the estimated increase of population. The average number of births for the period 1919-1923 is 2,683 and from this it appears that 1924 is 315 below the average.

Of the 47 towns over 5,000 in population 29 reported an increased number of births over 1923 but the increases were in general small. The following towns or cities reported increases of 10 or more, the numbers after each town being the actual increase. Bridgeport, 14; Bristol, 13; New Britain, 14; New Haven, 34; Stamford, 17; Torrington, 14.

The stillbirths reported numbered 91, a decrease of 16 from the 107 reported in 1923. For 1924, therefore, the total of births, living and stillbirths, is 2,459 and of this total 3.70 per cent were stillbirths. In 1923 the corresponding percentage figure among 2,446 combined living and stillbirths is 4.38.

Deaths

The death reports received during February 1924 numbered 1,590. In 1923 there were 1,837. This indicates a decided drop of 247 deaths. Coupling this with the decrease of 287 experienced in January it will be noted that 1924 is 534 below 1923 insofar as deaths are concerned. With this favorable experience in the months when the mortality tends to run greater it is not unreasonable to expect gratifying records when the year has ended.

In comparing 1924 with the average deaths over a period of years it has seemed advisable to omit the year 1920 when the deaths numbered 2,801 owing to the recurrence of the influenza epidemic. Therefore, averaging the years 1919, 1921, 1922, 1923 it will be found that 1,702 deaths occurred in February; 1924 is 112 below this average.

The following table exhibits a comparison between 1924 and 1923 for certain diseases.

CAUSE OF DEATH	1924	1923	INCREASE	DECREASE
Diseases of the Heart	243	222	21	....
Encephalitis, Epidemic	0	8	....	8
Pneumonia Undefined	10	6	4	....
Typhoid Fever	2	0	2	....
Measles	10	20	....	10
Scarlet Fever	8	6	2	....
Whooping Cough	11	19	....	8
Diphtheria	23	17	6	....
Influenza	51	156	....	105
Tuberculosis (Pulmonary)	91	100	....	9
Tuberculosis (Other forms)	18	13	5	....
Cancer	121	98	23	....
Cerebrospinal Meningitis	1	4	....	3
Poliomyelitis	1	2	....	1
Pneumonia (Lobar)	95	152	....	57
Pneumonia (Broncho)	106	189	....	83

CAUSE OF DEATH	1924	1923	INCREASE	DECREASE
Diarrhoea and Enteritis, (Under 2)	11	12	....	1
Puerperal Diseases	14	17	....	3
Accident	63	72	....	9
Suicide	12	17	....	5
Homicide	2	4	....	2
Other Causes	697	703	....	6
Totals	1,590	1,837	63	310

It is immediately apparent that the outstanding feature of these figures is the decrease of influenza, broncho pneumonia and lobar pneumonia. The total decrease due to these diseases is 245, which is nearly equal to the entire net decrease, 247, of all diseases. In January there was a decrease of 214. This makes a combined decrease of 459 for these diseases.

The mild winter is no doubt the cause of this drop, and it serves to emphasize the fact that in winters of severity the increase in pneumonia and influenza must be largely due to carelessness.

It will also be noted that one year ago the state had rather a run on epidemic encephalitis. This year none appeared for the month. There were other encouraging decreases in measles, tuberculosis, accidental deaths and whooping cough. Of the accidental deaths 13 were due to automobile accidents as compared with 5 for 1923.

The puerperal deaths numbered 14 for 1924. This yields an annual mortality rate of 5.69 per 1,000 births and stillbirths combined. In 1923 this rate was 6.95. These rates assume that uniformity in births, stillbirths and deaths from puerperal causes will continue throughout the year, as indicated by the monthly figures.

Infant Mortality

There were reported 216 deaths of infants under one year of age. This is an increase of 6 over the 210 recorded in 1923. The mortality rates per 1,000 living births for 1924 and 1923 are, respectively, 83.9 and 82.8

Marriages

During the month 809 marriages were solemnized, an increase of 94 over the 715 performed in 1923. The average number of marriages over the period 1919-1923 is 807; therefore, 1924 is 2 above the average.

February Statistics 1924	Population Based on U S Census Est. as of July 1, 1924	TOTALS Births	Still Births	Marriages	Deaths	DEATH RATES All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	AGE GROUPS Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,502,405	2368	91	809	1590	12.7	0.7	83.9	216	83	571
Ansonia	18,798	28		8	7	4.5		70.6	2	1	2
Branford	6,895	9		1	5	8.7					1
Bridgeport	162,491	260	13	94	160	11.8	0.5	55.1	15	10	48
Bristol	23,918	55	1	6	19	9.5		86.6	4	2	5
Danbury	21,981	39	1	5	30	16.4	1.1	114.1	5	1	6
Derby	12,279	23	2	8	16	15.6		54.9	2	1	2
East Hartford	13,274	9		11	8	7.2	0.9	88.2	1		4
Enfield	12,629	20		15	8	7.6	1.0	81.1	2		
Fairfield	13,950	15		1	7	6.0	0.9				3
Glastonbury	5,960	9		2	3	6.0		285.7	2		
Greenwich	24,674	35		49	20	9.7	0.5	54.9	2	2	14
Groton	10,493	9		4	12	13.7	2.3	74.1	1		4
Hamden	9,890	16		2	7	8.5		67.8	1	1	3
Hartford	156,169	311	12	110	184	14.1	0.6	96.1	31	9	57
Killingly	8,905	17		4	11	14.8	1.3	70.0	1	1	6
Manchester	20,561	34	1	5	17	9.9	0.6	29.3	1	1	10
Meriden	36,014	57	3	14	41	13.7	0.7	109.8	7	4	10
Middletown	22,554	41		12	56	29.8	2.1	40.1	2	1	26
Milford	12,893	6	1	1	6	5.6					5
Naugatuck	16,130	6		5	5	3.7	0.7	65.6	1		
New Britain	66,370	123	7	40	78	14.1	0.7	123.8	17	6	19
New Haven	175,827	308	18	123	187	12.8	0.8	63.7	21	12	68
New London	28,421	38	1	20	36	15.2		63.9	4	1	19
Norwalk	29,292	48		18	32	13.1	0.4	82.1	4	1	16
Norwich	30,303	56		21	47	18.6	1.6	105.9	7		18
Plainfield	8,465	10	1	5	7	9.9		75.5	1	1	2
Plymouth	6,315	12	1	6	5	9.5		117.6	1	1	1
Putnam	8,894	12		8	21	28.3	2.7	244.9	4		5
Seymour	7,705	10		2	1	1.6					1
Shelton	10,833	9		3	13	14.4				1	4
Southington	9,331	11	1	4	9	11.6		183.6	3	1	3
Stafford	5,456	19	1	6	7	15.4		335.7	4		2
Stamford	45,157	92	3	20	60	15.9	0.3	112.4	10	5	17
Stonington	10,718	18		6	11	12.3		72.7	1		7
Stratford	15,422	16		5	11	8.6	0.8	55.3	1	2	4
Thompson	5,171	8		3	5	11.6					2
Torrington	24,055	44	1	17	31	15.5		26.7	1		12
Vernon	8,822	10		6	5	6.8	1.4	93.0	1		3
Wallingford	12,405	16	1	2	10	9.7	1.0	131.1	2		5
Waterbury	100,291	177	7	43	105	12.6	0.8	106.8	20	11	17
Watertown	7,016	7		2	3	5.1					1
West Hartford	10,729	12		4	12	13.4	2.2	136.4	2		7
West Haven	17,354	27	2	5	23	15.9	2.8	129.0	4	1	11
Westport	5,509	9		2	6	13.1					4
Winchester	9,095	22	2	2	10	13.2		109.6	2		4
Windham	14,265	31	2	4	13	10.9		132.9	4	1	4
Windsor	6,287	7		3	8	15.3	5.7	137.9	1	1	1
Towns under 5,000	212,439	214	9	72	212	12.0	0.8	84.6	21	4	108

for the month of February, 1924

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis—Pulmonary	Tuberculosis—Other Forms	Cancer	Meningitis—Cerebro-Spinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea and Enteritis under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
243	......	10	2	10	8	11	23	51	91	18	121	1	1	95	106	11	14	63	12	2	508	236
1										1	1											
1											1			1	1							
23						2	3	4	4	2	18			5	11		3	13	1	1	63	20
3					1						1			3	1						2	
2									2	1	2			2	1						13	7
2										1	1			2	1		1	1	1		8	5
2								2							1							
				1			1	1	1					1				1				
2								1	1		1			1	1							2
1															1							
3				3					1						1	1					1	1
2							1		1		2		1	2	1						3	1
2								1						2								
18				1			1	2	7	5	23			13	16	1	2	5	3		104	44
1									1					2	1	1						
3				1				2			3			1		1					3	
9							1	1	1		1			3	3	1		4			11	4
10		1	1						8	1	1			1	5			4			49	42
1											1											
									1		1											
10		2		1	1	3	1	5	4		7			5	3	1		1			16	4
27		1	1			1		4	9	2	14	1		16	20	1	2	8	1	1	78	19
8		1						1			2				2	1	1	1			10	8
3		2				1	1		1		3			3	2				1		7	5
6								4	7		4			2	1		1		1		16	6
1								1						1	1				1			
														1								
3					1				3		2						1				5	4
																						1
1							1		7		1										7	7
3				2							1											
														1	1	1						
8		2		1			1	2	1	4	3			5	3		1	4	1		22	9
4							1				1				1			1				
6									1	1					1							
1					2																	
6								5			2			4	1						9	3
1								1			1											
						1			1		1				2			1				
12					2	1	9	4	5		8			1	3	1	2	6			31	4
											2											
4									1		2			1	2						3	
4					1		1		4		1			1	2						7	5
1															1						4	4
1								1			1			1	1			1	1		2	1
1								1			1				2			1			3	1
2									2									1				
44		1				2	1	8	17		7			14	12	1		10	1		31	29

Towns not Reporting, January, 1924*

BIRTHS	MARRIAGES	DEATHS
Coventry	Bethel	Cornwall
Cornwall	Canaan	Hartland
Hartland	Cornwall	Plainville
Newtown	Hartland	
Orange	North Canaan	
Plainville	North Haven	
Salisbury	Orange	
Westbrook	Salisbury	
	Saybrook	
	Sharon	
	South Windsor	
	Washington	
	Waterford	
	Westbrook	
	Willington	

Towns from which no report has been received, February, 1924*

BIRTHS	MARRIAGES	DEATHS
Barkhamsted	Barkhamsted	Barkhamsted
Colebrook	Burlington	Franklin
Franklin	Colebrook	Old Lyme
Plainville	East Lyme	Plainville
Simsbury	Franklin	
South Windsor	Kent	
	Monroe	
	New Hartford	
	North Canaan	
	North Haven	
	Plainville	
	Ridgefield	
	Saybrook	

*This bulletin goes to press the 5th of each month.

Six Year Study—February 1919-1924

CONNECTICUT	1919	1920	1921	1922	1923	1924
BIRTHS *Birth Rate*	2814 23.1	2962 25.5	2742 23.2	2556 21.2	2339 19.0	2368 18.9
DEATHS *Death Rate*	1766 14.5	2801 24.1	1455 12.3	1750 14.5	1837 14.9	1590 12.7
MARRIAGES *Marriage Rate*	846 6.9	932 8.0	745 6.3	796 6.6	715 5.8	809 6.5
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	483 27.3	1084 38.7	195 13.4	326 18.6	334 18.2	198 12.5
DEATHS UNDER 1 YEAR *Rate per 1000 births*	286 100.9	375 131.6	227 80.0	249 96.1	210 82.8	216 83.9

*Includes: Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pul., Cerebro-Spinal Men., Poliomyelitis, Influenza.

WHERE SOME OF THE NATIVE MEAT SOLD IN NEW HAVEN COMES FROM.

This pictures actual conditions at one of the slaughter houses from which some of the native meat for human consumption is supplied to New Haven and adjacent towns.

The building is of frame construction, about 40 feet long, 25 feet wide and 15 feet high, having a concrete floor and concrete side walls to a height of about 5 feet. The floor has a steep slope being about two and a half feet lower at the rear than at the front, but there is no outlet for the liquid wastes and at the time the picture was taken, these had pooled to a depth of about 18 inches at the lower side. Putrefaction of this waste was far advanced. Hung directly above it, and permeated with the odors, were two sides of beef. Lungs and tongues were hanging on hooks directly over a pile of decomposing entrails. All the slaughtering utensils and equipment were in a filthy condition.

While this inspection was being made, the proprietor was out peddling meat, doubtless selling to unsuspecting customers, meat positively dangerous to health. Needless to say, the establishment was closed until such time as the proprietor could show his willingness to conform to the Sanitary Code of Connecticut.

Have the customers of this man been getting a square deal?

MAKE CONNECTICUT A STATE WITHOUT SMALLPOX

At various periods in the history of Connecticut there have been epidemics of smallpox, notably the epidemics of 1916 in Waterbury and in Winsted, of 1922 in Bridgeport, and the present epidemic in New Britain.

Could all contacts with smallpox cases be located, and isolated as carefully as are actual cases there would be no spread of the disease. Previous experience has shown that smallpox may spread state wide unless it is controlled at the source, which means the first case and all those persons who have come in contact with it.

Type of Smallpox which now Prevails in Connecticut

With an increasing number of cases people have come to a realization of protection afforded by vaccination, school children, factory employees, teachers as well as doctors and nurses who have come in contact with smallpox cases, have taken advantage of this protection.

With such a simple preventive measure available to all,—it is the duty of each citizen to so protect himself and the duty of every community to safeguard its citizens from smallpox by enforcing vaccination.

THE SMALLPOX RECORD FOR 1924 IS ALREADY 43 CASES AND 5 DEATHS LET US WIPE OUT SMALLPOX FROM CONNECTICUT.

INCIDENCE OF PREVENTABLE DISEASES

March, 1924

A comparison of the daily morbidity reports received during the month of March, 1924, with the corresponding month for the years 1919, 1920, 1921, 1922 and 1923.

Certain Diseases	Average 1919-1923 for Mar.	Mean 1919-1923 for Mar.	Cases reported by Local Health Officers. 1919	1920	1921	1922	1923	1924
Cerebrospinal Meningitis ..	9	9	7	11	6	14	9	7
Diphtheria	280	281	281	292	295	271	259	195
Encephalitis Epidemic (Not reportable till 1921)			9	16	6	29	6	
Measles	1,023	830	869	1,313	830	776	1,327	782
Poliomyelitis	1	2	0	2	2	1	1	2
Scarlet Fever	401	372	239	442	588	366	372	806
Smallpox	25	6	1	0	1	115	6	29
Typhoid Fever	11	11	17	6	14	11	9	13
Tuberculosis (pulmonary)	161	152	152	192	174	142	144	125
Whooping Cough	198	244	31	244	316	145	253	187

A comparison of the morbidity on these diseases for the two preceding months, January and February, with the March, 1924, record is as follows:

	January	February	March
Cerebrospinal Meningitis	1	2	7
Diphtheria	274	229	195
Encephalitis Epidemic	4	2	6
Measles	809	829	782
Poliomyelitis	0	2	2
Scarlet Fever	741	746	806
Smallpox	2	7	29
Typhoid Fever	8	6	13
Tuberculosis (pulmonary)	167	133	125
Whooping Cough	313	188	187

Cases of Other Reportable Diseases

March, 1924

Chickenpox	311	Septic Sore Throat	5
Conjunctivitis Infectious	2	Smallpox	29
Ophthalmia Neonatorum ..	1	Tetanus	2
Encephalitis Epidemic	6	Trichinosis	1
German Measles	35	Gonorrhoea	63
Influenza	49	Syphilis	80
Mumps	856		
Paratyphoid Fever	1	Total	1,441

Cases of Occupational Diseases

Dermatitis Venenata	1
Infectious Dermatitis	1
Total	2

Cases of Certain Reportable Diseases

March, 1924	Population	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com. Diseases
State Total	1,502,405	13	762	806	187	195	7	2	125	9	225	1441
NEW HAVEN CO.	**451,336**	**9**	**59**	**189**	**58**	**44**	**2**		**50**	**3**	**82**	**651**
New Haven	175,827	4	26	63	9	11			32	3	42	376
Waterbury	100,291	2	1	46	4	19			8		8	15
Meriden (city and town)	36,014	2	10	4	20	1			5		10	28
Ansonia	18,798			5	1	4					2	4
West Haven	17,354			30		4					4	30
Naugatuck	16,130											
Wallingford (town and boro)	12,405	1	3	3		1					1	2
Milford	12,893			2		1					3	22
Derby	12,279			1			1					
Hamden	9,890			9	7	1			1		6	98
Branford (town and boro)	6,895			3	13				1		1	45
Seymour	7,705			5	1							
Towns under 5,000	24,855		19	18	3	2	1		3		5	31
FAIRFIELD CO.	**355,984**		**407**	**128**	**58**	**54**		**2**	**22**	**1**	**50**	**221**
Bridgeport	162,491		6	59	17	41			15	1	29	52
Stamford (city and town)	45,157		78	19	13	2			2		3	61
Norwalk	29,292				2	2			2		2	1
Danbury (city and town)	21,981		19	24	11						1	
Greenwich (town and boro)	24,674		280	2				1	1		5	4
Stratford	15,422			6							2	4
Fairfield	13,950			10	7	4					1	91
Shelton	10,833			4	2	2		1			1	3
Westport	5,509			2		1						
Towns under 5,000	26,675		24	2	6	2			2		6	5
HARTFORD CO.	**375,816**	**3**	**274**	**334**	**44**	**67**	**3**		**35**	**2**	**61**	**389**
Hartford	156,169	1	193	220	7	39	1		21	2	24	168
New Britain	66,370	1	4	41	11	8	2		1		6	74
Bristol (city and town)	23,918	1		4		3			5		6	26
Manchester	20,561		1	5	2	1			2		1	3
Enfield	12,629		19	2		4			1		4	1
East Hartford	13,274		3	7		5			4		2	4
Southington (town and boro)	9,331		14			1			1		1	5
West Hartford	10,729		9	24	5	2					1	36
Windsor	6,287		1	3								2
Glastonbury	5,960			4							1	
Towns under 5,000	50,588		30	24	19	4					15	70
NEW LONDON CO.	**110,803**	**1**	**3**	**51**		**14**	**2**		**5**	**3**	**6**	**35**
Norwich (city and town)	30,303			12		5			4	1		3
New London	28,421		3	3		3	1			2		9
Stonington (town and boro)	10,718	1		4			1					1
Groton (town and boro)	10,493			12		1						12
Towns under 5,000	30,868			20		5			1		6	10
LITCHFIELD CO.	**79,046**			**32**	**6**	**2**			**3**		**5**	**57**
Torrington (town and boro)	24,055											
Winchester (inc. Winsted)	9,095								1			
Plymouth	6,315			11								6
Watertown	7,016			5	2	1					1	34
Towns under 5,000	32,565			16	4	1			2		4	17
WINDHAM CO.	**54,881**		**9**	**36**	**9**	**5**			**2**		**8**	**35**
Windham (inc. Willimantic)	14,265		2	3		4			2			6
Putnam (city and town)	8,894		2	18	5						1	11
Plainfield	8,465											
Killingly (inc. Danielson)	8,905		2	2	2						4	5
Thompson	5,171		1	4	1							1
Towns under 5,000	9,181		2	9	1	1					3	12
MIDDLESEX CO.	**46,972**		**4**	**26**	**5**	**5**			**6**		**7**	**42**
Middletown (city and town)	22,554			6	3	3			1			
Middletown State Hospital						1			3			2
Towns under 5,000	24,418		4	20	2	1			2		7	40
TOLLAND CO.	**27,567**		**26**	**10**	**7**	**4**			**2**		**6**	**11**
Vernon (inc. Rockville)	8,822			1					1			
Stafford (town and boro)	5,456		22	2	2				1		3	
Towns under 5,000	13,289		4	7	5	4					3	11

(For cases of other reportable diseases, see page 99)

NEUROPSYCHIATRIC CLINICS SAVE MENTAL HEALTH

The treatment of mental disorders lies now in the field of preventive medicine. Mental health clinics such as are functioning in Connecticut are its chief agents. It is recognized that while one of the "essential causes," described in last month's bulletin, is always at the root of a nervous or mental trouble, a "contributory cause" is frequently responsible for its development. These clinics, if consulted in time, can often discover this "contributory cause," and by removing it, prevent the threatened breakdown. This is particularly true of the so-called hereditary disorders.

But unfortunately "social psychiatry" is so new, its functions so diverse, and its growth so rapid, that its present status and functions are not generally understood by the public at large, nor in fact by many physicians. Dr. Thom has said, "Surprising and regrettable as it may seem, the terms 'mental hygiene,' 'social service,' and 'psychiatric clinic' are without meaning, not only to most laymen, but to many of the medical profession, who are struggling along blindly, quite ignorant of the facilities at hand." The average physician has received very little instruction regarding the indications of incipient mental disorders, for even the best of our medical schools fail to give to psychiatry the proportion of attention which its importance demands.

As a result of the general lack of information on the subject, many cases in need of mental hygiene remain unrecognized for a long time—in fact, until they culminate in permanent dependence or some form of anti-social behavior. The problem of discovering these cases in their early stages is very difficult, but most important, since only by this means can the final results be averted. Their detection calls for the keenest observation and closest co-operation of physicians, school superintendents and teachers, social agencies, courts, and industries. The misfit in industry, the offender brought to court— especially the juvenile court—the chronically inadequate who are aided or supported by welfare organizations, the child who presents behavior problems, or is backward in school, or shows a sudden loss of interest in his studies, the "chronic" patient with imaginary ills who constantly besieges the physician for remedies for his (or her) latest invention—all of these are prospective mental patients who, if recognized and properly treated in time, may be re-established on a self-reliant basis.

In short, problems in mental hygiene may appear at any time or place, for they are problems in human adjustment—the reactions of personalities to each other and to their environment.

Schools, courts, and social agencies should call freely upon

the physician for his advice, or should consult any available neuro psychiatric clinic. All such agencies must bear in mind the fact that the patient himself seldom recognizes the true nature of his difficulty, and it may be almost totally obscured by the apparent trouble. This fact is recognized by many social agencies, who are employing social workers trained in psychiatry to help to detect the mental elements in their most difficult problems. Schools are giving mental examinations to retarded children, and courts are giving routine phychiatric examinations to offenders. This procedure should be more widely followed and physicians more freely consulted. Dr. Fernald says, "It is a striking fact that the average patient who is committed to a State hospital or a school for the feeble-minded has not consulted a physician for his mental malady until the physician is called upon to sign the commitment papers. The physician is seldom called upon to treat incipient stages of mental diseases, although such diseases are often amenable to treatment before they are fully developed. The prognosis as to cure is usually in inverse ratio to the duration of the disease."

On the next page is given a list of the neuropsychiatric clinics in Connecticut, where any resident can receive free psychiatric advice. All who want help in making personal adjustments should unhesitatingly avail themselves of this privilege.

NEUROPSYCHIATRIC CLINICS IN CONNECTICUT

CITY	NAME	ADDRESS	HOURS	STAFF	CLIENTELE
Bridgeport	Bridgeport Nerve Clinic	Welfare Building, Washington & Madison Sts.	Mon. & Fri. at 9.00 a.m.	J. C. Lynch, M. D., Chief Dr. Weis, Asst. Emil Susslin, M. D., House Physician Eight Social Workers	Nervous and mental patients from Bridgeport
	Juvenile Court Clinic	398 Fairfield Ave.	By appointment	A. R. Diefendorf, M. D. Minnie Kuhfuss, Probation Officer	Juvenile court cases
Hartford	Hartford Dispensary Neuropsychiatric Clinic	56 Winthrop St	Tues. & Sat. 9-12 a.m. (Patients must register before 9.30.	O. G. Wiedman, M. D., Chief C. F. Vernlund, M. D., Asst. H. A. Bancroft, M. D., Asst. Eleanor H. Johnson, Psychologist Helen Guest, Psychiatric Social Worker	Any patient from Hartford County
	Helen Hartley Jenkins Juvenile Clinic	17 Haynes St.	By appointment with Miss Harris	O. G. Wiedman, M. D., Chief H. A. Bancroft, M. D., Asst. Marjorie Stillman, Psychometrist Mary G. Harris, Secretary Olive O'Neill, Social Worker	Conduct problems from any part of the state including Hartford Juvenile Court cases
	Child Hygiene Dept. of Visiting Nurse Association	34 Charter Oak Ave.	1st & 3rd Mon. of each month, 9-11 a.m.	H. A. Bancroft, M. D. Mrs. Hedwig Sweetland, Social Worker	Children of preschool age presenting behavoir problems
Middletown	Conn. State Hospital Clinic	Conn. State Hospital	Sat. afternoon or at other times by apointment.	R. L. Leak, M. D., Supt. C. Waterman, M. D., Asst. Supt. Nine assistant physicians Margaret Allin, Field Worker Flora L. Pierce, Asst. Field Worker	Any Connecticut patient

NEUROPSYCHIATRIC CLINICS IN CONNECTICUT (Continued)

CITY	NAME	ADDRESS	HOURS	STAFF	CLIENTELE
New Haven	New Haven Dispensary Neuropsychiatric Clinic (Conducted by Conn. Society for Mental Hygiene)	321 Congress Ave.	Thurs. 2-5 p.m.	O. G. Wiedman, M. D., Henrietta Thacher, Psychiatric Social Worker Assistants in social service	Patients from New Haven County
	Yale Psycho-Clinic of Yale University Dept. of Education	At New Haven Dispensary, 321 Congress Ave. At 28 Hillhouse Ave.	Wed. afternoon By appointment with with Miss Lord	Arnold Gesell, M. D. Elizabeth E. Lord, Clinical and Research Assistant Ruth Washburn, Clinical Assistant	Patients showing exceptional mental conditions and conduct disorders, particularly children of preschool age
New London	Psychoeducational Clinic of New London School System	Jennings School	Mon., Wed., Fri. 10-12.00 a.m.	Frank E. Morris, Ph. D. Dr. Ganey, School Phys. Grace Sistaire, Principal of Special Class System	Problem school children of New London and vicinity and adults for psychological examinations
Norwich	Norwich Neuropsychiatric Clinic, conducted by Norwich State Hospital and United Workers of Norwich	Backus Hospital, Washington St.	Thurs. 2-5.00 p.m. (By appointment)	E. S. Burdsall, M. D. Betsey Mitchell, Psychiatric Social Worker	Patients from Norwich and vicinity
	Norwich State Hospital Clinic	Norwich State Hospital	At any time, preferably by appoinment	F. P. Shenk, M. D. Geneva Smith, Psychiatric Social Worker	Any patient from Connecticut
Stamford	Stamford Hospital Neuropsychiatric Clinic	Stamford Hospital	Thurs. 3.00 p.m.	F. H. Barnes, M. D. Katherine B. Duelle, Social Worker	Patients from Stamford and vicinity
Waterbury	Mental Hygiene Clinic (Conducted by Conn. Society for Mental Hygiene)	35 Field St.	Psychometric examinations and social service, every Thurs. 2-5 p.m. Psychiatric examination, 4th Tues. in each month.	H. A. Bancroft, M. D. Marjorie Stillman, Psychometrist Helen Guest, Psychiatric Social Worker	Patients from Waterbury or other parts of Connecticut

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"For a Clean State and a Healthy People"

Vol. 38 May, 1924 No. 5

This Issue Contains

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CONNECTICUT
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Vol. 38 May, 1924 No. 5

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STATE DEPARTMENT OF HEALTH

RABIES IN CONNECTICUT

On April 15th, the State Department of Health laboratory reported a dog's head sent in from Torrington as positive for rabies. The dog had been brought from New Jersey about ten days before symptoms developed, and had been confined during that time so that he did not spread the disease to other dogs. This was the first case of rabies reported in the state since July, 1923. Thus, the state has been free from rabies for a period of more than eight months. According to information obtained from the office of the Commissioner on Domestic Animals there has been no other occasion during the past seven years when the state was free from rabies for more than two consecutive months. This information is given in detail in the accompanying table.

Health authorities are interested in rabies among dogs for the reason that most cases of human rabies follow the bite of a rabid dog. The bite of any rabid animal may result in rabies and occasionally cats and other animals including wild animals may have the disease and may transmit it to human beings; but if rabies could be eliminated among dogs this hazard would be negligible.

The present freedom from rabies in Connecticut is attributed to a change in procedure in the control of rabies among animals. The quarantine regulations heretofore enforced included the destruction of all dogs known to have been bitten by a rabid dog, and chaining or confining upon the owner's premises all dogs in the area through which a rabid dog had run. Realizing the difficulty in maintaining quarantine for a sufficient number of months to cover the maximum incubation period of rabies, and appreciating the fact that even where quarantine is rigidly maintained for any practicable length of time an occasional case may develop after release, a new procedure has been put into operation by the Commissioner on Domestic Animals.

The new procedure is made possible by the recent development of a method of immunizing dogs by a single injection of vaccine. Instead of quarantining all dogs in the area and destroying all known contacts, the present procedure omits quarantine of dogs that have recently had the one immunizing dose of rabies vaccine, and permits quarantine, instead of destruction, for dogs to which the first injection of the regular Pasteur treatment has been given within three days of the time the dog was bitten.

The essential feature of this procedure is that it affords the dog owner freedom from quarantine restrictions if the dog has been recently immunized, or permits saving a dog that has been bitten provided the Pasteur treatment is given promptly. Thus the procedure furnishes an incentive to dog owners to take advantage of our present knowledge with reference to immunizing against rabies. Virus for single dose immunization against this disease is now on the market and may be purchased for use by any veterinarian. Incidentally figures in the accompanying table do not support the popular belief that rabies occurs more frequently during the hot summer days than at other times of the year. In fact, it is shown that during the past seven years, more cases occurred among dogs in January and March than during any other months of the year. The truth is that rabies occurs at all seasons of the year and is no more apt to occur in the so-called "dog days" than at any other time.

CASES OF RABIES AMONG DOGS IN CONNECTICUT SINCE 1917

	1917	1918	1919	1920	1921	1922	1923	1924	Total
January	29	3	7	4	1	6	2	0	52
February	10	13	10	0	0	5	1	0	39
March	17	15	16	1	6	4	4	0	63
April	24	6	9	0	0	2	2	1	44
May	8	5	1	0	0	0	3	....	17
June	8	8	1	2	1	2	8	....	30
July	10	10	7	1	1	4	10	....	43
August	19	3	1	0	4	7	0	....	34
September	13	5	1	0	1	1	0	....	21
October	13	7	1	2	0	0	0	....	23
November	5	7	1	2	2	2	0	....	19
December	5	2	0	1	5	1	0	....	14
Total	161	84	55	13	21	34	30	1	399

Preventable Diseases

AGE OF COMMUNICABLE DISEASE PATIENTS

The blanks provided for reporting communicable diseases in Connecticut as in all other states provide for recording the age of the patient. The age of the patient is sometimes not given in reports so that information on this point is not always available in the office of the State Department of Health.

The accompanying table shows the number of cases of each of the communicable diseases reported to the State Department of Health during the past four years together with the number and percentage of such cases for which ages were given. It will be observed that there has been general improvement in the reporting of ages of communicable disease patients. In 1920 only 37.0 per cent of all reports of communicable disease gave the age of the patient, while in 1921 the percentage was 84.9, in 1922 79.8, and in 1923 85.6.

The foregoing figures include influenza cases. It is noted that when a number of such cases occur, reports are hurriedly made without giving ages. Possibly a more accurate idea of the improvement in reporting ages of patients may be had by omitting influenza from the percentages so reported. Thus, leaving out influenza the percentage of communicable disease cases reported in which the age of patient was given may be listed as follows: for 1920, 65.5; 1921, 84.9; 1922, 89.9; 1923, 89.4. These figures indicate definite improvement in reporting the ages of communicable disease patients up to approximately 90 per cent.

One reason why information concerning the ages of patients is important is that the age distribution of cases may be known. This knowledge is of value in devising measures for the control of communicable diseases. For example, knowing that scarlet fever and diphtheria are for the most part diseases of childhood, health officials feel justified in permitting adult members of families where such diseases exist to continue work provided the patient is properly isolated and the wage earners do not handle foods. Thus a knowledge of age distribution of cases obtained through recording the ages of patients reported helps in fixing quarantine restrictions so as to lessen as much as may be safely done the inconvenience of such measures.

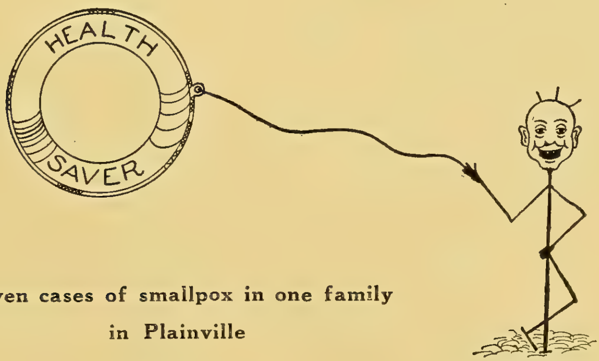
Cases of Disease Reported to State Dep artment of Health in which Age was given

	1920			1921			1922			1923		
	No. cases reported for year	No. cases reported with ages given	Per cent of cases for which ages were given	No. cases reported for year	No. cases reported with ages given	Per cent of cases for which ages were given	No. cases reported for year	No. cases reported with ages given	Per cent of cases for which ages were given	No. cases reported for year	No. cases reported with ages given	Per cent of cases for which ages were given
Actinomycosis	....	....	....	....	....	....	....	....	....	2	2	100 0
Anthrax	1	....	....	....	....	....	3	2	66.7	....	....	....
Botulism	....	....	....	....	....	....	2	2	100.0	....	....	....
Cerebrospinal Meningitis	91	73	80.2	78	67	85.9	91	80	87.9	83	76	91.6
Chickenpox	1,466	1,035	70.6	2,272	2,076	91.4	2,221	2,008	90.4	2,602	2,150	82.6
Conjunctivitis Inf.	9	7	77.8	167	167	100.0	179	27	15.1	89	63	70.8
Diphtheria	3,754	3,212	85.6	3,361	3,228	96.0	2,924	2,785	95.2	2,427	2,348	96.7
Dysentery, Amoebic	....	....	....	....	....	....	4	3	75.0	10	5	50.0
Dysentery, Bacilli	10	7	70.0	16	15	93.8	16	13	86.7	18	12	66.7
Encephalitis Epidemic	40	....	....	74	65	87.8	47	46	97.8	110	104	94.5
Favus	4	4	100.0	1	1	100.0	2	2	100.0	3	3	100.0
German Measles	112	67	59.8	96	79	82.3	302	277	91.7	226	124	54.9
Hookworm Inf.	....	....	....	....	....	....	1	....	....	1	1	100.0
Influenza	23,931	38	.2	282	240	85.1	5,941	2,068	34.8	2,523	1,108	43.9
Leprosy	1	1	100.0	1	1	100.0	1	1	100.0	....	....	....
Malaria	22	21	95.5	27	23	85.2	80	72	90.0	47	45	95.7
Measles	8,425	4,185	49.7	4.620	3,971	86.0	8,558	7,282	85.1	9,659	8.343	86.4
Mumps	1,492	887	59.5	2,294	1,971	85.9	803	745	92.8	1,327	1,051	79 2
Paratyphoid	11	8	72.7	48	38	79.2	15	14	93.3	15	15	100.0
Pellagra	....	....	....	....	....	....	1	1	100.0	....	....	....
Pneumonia, Lobar	1,545	730	47.2	1,060	920	86.8	1,655	1,547	93.5	1,373	1,273	92.7
Poliomyelitis	41	34	82.9	86	66	76.7	47	44	93.6	88	85	96.6
Scarlet Fever	4,028	3,503	87.0	4,001	3,900	97.5	3,132	3,002	95.8	3,372	3,296	97.7
Septic Sore Throat	19	16	84.2	35	30	85.7	26	24	92.3	35	32	91.4
Smallpox	2	2	100.0	8	8	100.0	447	433	96.9	52	49	94.2
Tetanus	13	13	100.0	22	17	77.3	28	26	92.9	21	19	90.5
Trachoma	16	14	87.5	24	23	95.8	15	12	80.0	8	6	75 0
Trichinosis	2	2	100.0	15	10	66.7	5	5	100.0	9	6	66.7
Tuberculosis, Pulmonary	1,905	1,609	84.5	1,828	1,570	85.9	1,605	1,463	91.2	1,555	1,445	92.9
Tuberculosis, Other Forms	148	63	42.6	120	112	93.3	124	115	92.7	136	114	83.8
Typhoid Fever	426	381	89.4	460	449	97.6	315	304	96.5	295	254	86.1
Typhus Fever	....	....	....	1	1	100.0	....	....	....	1	1	100.0
Whooping Cough	3,649	2,537	69.5	2,905	2,545	87.6	2,109	1,964	93.1	2,758	2,548	92.4
Yaw	....	....	....	....	....	....	....	....	....	1	1	100.0
Gonorrhoea	1.345	1,064	79.1	1,025	798	77.9	658	619	94.1	670	644	96.1
Syphilis	2,238	720	32.2	2,505	902	36.0	936	779	83.2	664	623	93.8
Total Diseases*	54,746	20.233	37.0	27,432	23,293	84.9	32,293	25,765	79.8	30,180	25,846	85.6
Total Diseases**	30,815	20,195	65.5	27,150	23,053	84.9	26,352	23,697	89.9	27,657	24,738	89.4

*Influenza included in total.
**Influenza not included in total

Knowledge of age distribution of the different diseases often has some value in making a diagnosis. For example, knowing that poliomyelitis, or infantile paralysis, is usually a disease of childhood, suspicious symptoms in an adult would be studied with special care and other possibilities excluded before a diagnosis of infantile paralysis would be made. Knowing that chickenpox is nearly always a disease of childhood sometimes enables health officials to pick up cases of smallpox erroneously reported as chickenpox. This, of course, could not be done unless the ages of patients are given on reports.

While figures available show improvement in reporting ages of patients there is still room for additional improvement and will still be room for improvement as long as the ages are reported in any less than 100 per cent of all cases. At present the 100 per cent or perfect mark, is limited to those rare diseases of which only a few cases are reported. Records of ages of patients may be said to be perfect when all reports of common as well as rare diseases give the ages of the patients.



Seven cases of smallpox in one family in Plainville

VACCINATE!

AND STOP THIS SPREAD OF SMALLPOX IN CONNECTICUT!

INCIDENCE OF DISEASE FOR MONTH OF APRIL, 1924

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of April, 1924, with the corresponding month for the years 1919, 1920, 1921, 1922, and 1923.

Certain Diseases	Average 1919-1923 for Apr.	Mean 1919-1923 for Apr.	1919	1920	1921	1922	1923	1924
Cerebrospinal Meningitis ..	7	5	5	5	11	11	5	2
Diphtheria	211	202	171	292	202	212	178	154
Encephalitis Epidemic (Not reportable till 1921)				7	9	10	14	3
Measles	880	939	939	1,010	542	909	1,002	632
Poliomyelitis	0	0	1	1	0	0	0	3
Scarlet Fever	316	290	234	407	397	252	290	719
Smallpox	17	74	0	0	1	74	11	10
Typhoid Fever	14	15	19	15	16	12	7	3
Tuberculosis (pulmonary)	161	141	131	195	199	138	141	144
Whooping Cough	180	210	19	210	270	124	276	107

A comparison of the morbidity on these diseases for the two preceding months, February and March, with the April record, is as follows:

	February	March	April
Cerebrospinal Meningitis	2	7	2
Diphtheria	229	195	154
Encephalitis Epidemic	2	6	3
Measles	829	782	632
Poliomyelitis	2	2	3
Scarlet Fever	746	806	719
Smallpox	7	29	10
Typhoid Fever	6	13	3
Tuberculosis (pulmonary)	133	125	144
Whooping Cough	188	187	107

Cases of Other Reportable Diseases

April, 1924

Chickenpox	231	Mumps	611
Conjunctivitis Infectious	5	Septic Sore Throat	1
Ophthalmia Neonatorum ..	1	Smallpox	10
Dysentery (Amoebic)	1	Tetanus	1
Encephalitis Epidemic	3	Trichinosis	3
German Measles	35	Gonorrhoea	99
Influenza	33	Syphilis	197
Malaria	1		
		Total	1,232

Cases of Occupational Diseases

Benzol Poisoning	2
Lead Poisoning	3
Metallic Poisoning	2
Total	7

Cases of Certain Reportable Diseases

April, 1924	Population	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com. Diseases
State Total	1,502,405	3	632	719	107	154	2	3	144	8	149	1232
NEW HAVEN CO.	**451,336**	**3**	**47**	**163**	**30**	**37**	**2**	**2**	**43**	**1**	**48**	**511**
New Haven	175,827	2	21	61	10	4	2	1	24	1	31	286
Waterbury	100,291		1	25	1	17		1	10		9	22
Meriden (city and town)	36,014		3	2	6	3			7		1	25
Ansonia	18,798		1	6	1	9					3	15
West Haven	17,354		18	25	1	1						17
Naugatuck	16,130											
Wallingford (town and boro)	12,405		2	1		2			1		1	7
Milford	12,893	1		1	1							9
Derby	12,279			3							1	1
Hamden	9,890		1	9					1		2	68
Branford (town and boro)	6,895				8	1						23
Seymour	7,705			1								
Towns under 5,000	24,855			29	2							38
FAIRFIELD CO.	**355,984**		**305**	**112**	**31**	**36**			**26**	**1**	**34**	**187**
Bridgeport	162,491		9	54	10	13			15	1	17	58
Stamford (city and town)	45,157		72	17	8	1			3		4	38
Norwalk	29,292		5	2	2	7			1		1	2
Danbury (city and town)	21,981		126	8								11
Greenwich (town and boro)	24,674		21	6	4				5		2	9
Stratford	15,422			4		3					7	7
Fairfield	13,950			11	2	10			1			25
Shelton	10,833			7								
Westport	5,509		2		4	2					1	3
Towns under 5,000	26,675		70	3	1				1		2	34
HARTFORD CO.	**375,816**		**221**	**321**	**27**	**59**		**1**	**55**	**6**	**41**	**384**
Hartford	156,169		181	195	11	29			32	4	19	211
New Britain	66,370		9	41	7	16		1	8	1	6	77
Bristol (city and town)	23,918		3	10		1			4	1	3	12
Manchester	20,561		3	11	4				1		3	10
Enfield	12,629		1	2		8						3
East Hartford	13,274		5	11		1			2		1	5
Southington (town and boro)	9,331		1						1		2	6
West Hartford	10,729		6	14		1			3		4	10
Windsor	6,287			4								1
Glastonbury	5,960		2	2								
Towns under 5,000	50,588		10	31	5	3			4		3	49
NEW LONDON CO.	**110,803**		**4**	**51**		**7**			**9**		**7**	**37**
Norwich (city and town)	30,303			8		3			5		1	9
New London	28,421		2						1		1	7
Stonington (town and boro)	10,718		1	17							3	3
Groton (town and boro)	10,493		1	12							1	1
Towns under 5,000	30,868			14		4			3		7	17
LITCHFIELD CO.	**79,046**		**31**	**29**	**1**	**6**			**3**		**7**	**22**
Torrington (town and boro)	24,055											
Winchester (inc. Winsted)	9,095											
Plymouth	6,315			11							1	2
Watertown	7.016			1	1	2			1			6
Towns under 5,000	32,565		31	17		4			2		6	14
WINDHAM CO.	**54,881**			**25**	**4**	**1**			**2**		**8**	**16**
Windham (inc. Willimantic)	14,265			15							1	5
Putnam (city and town)	8,894			1	4				1		2	2
Plainfield	8,465											
Killingly (inc. Danielson)	8,905			6							4	5
Thompson	5,171					1			1			1
Towns under 5,000	9,181			3							1	3
MIDDLESEX CO.	**46,972**		**1**	**8**					**4**		**2**	**61**
Middletown (city and town)	22,554			2					2			
Middletown State Hospital									1			2
Towns under 5,000	24,418		1	6					1		2	59
TOLLAND CO.	**27,567**		**23**	**10**	**14**	**8**			**2**		**2**	**14**
Vernon (inc. Rockville)	8,822								1			2
Stafford (town and boro)	5,456		15			8					1	1
Towns under 5,000	13,289		8	10	14				1		1	11

(For cases of other reportable diseases, see page 112)

Laboratories

THE LABORATORY AND TUBERCULOSIS

Tuberculosis is still with us. Education toward right living, personal hygiene, proper diet, and the value of rest and fresh air have done very much to lessen its terrors and control its spread but it persists in spite of these concerted efforts to eradicate it. Daily specimens are received at the laboratory to examine for tubercle bacilli. These consist of sputum, that is material coughed up from the deeper air passages by the patient. There are not a large number of these specimens but an average of about seven per day has been received during the past year.

The five State Tuberculosis Sanatoria and large hospitals have their own laboratories where such specimens can be examined and the city laboratories make it possible for local diagnoses to be made. But to the State Laboratory are sent specimens from physicians throughout the State. The results form a valuable aid in diagnosing cases suspected from clinical evidence as having tuberculosis of the lungs.

First Steps in Laboratory Procedure

Like the little boy who wants to "see the wheels go 'round" we confess to some curiosity as to the means of finding these germs and identifying them in the laboratory. To return a positive report for tuberculosis, the tubercle bacillus must actually be found in the sample of sputum. So the method must be so carefully controlled that the tubercle bacilli, ordinarily occuring in such a sample, in groups, or clumps, are

Figure 1. Receiving clerk adding "antiformin" to the tuberculosis specimens

broken up and scattered throughout the sample, and thus are more easily found.

The samples of sputum from suspected cases of tuberculosis are received in small square bottles as shown in Figure 1. These bottles are sent out from the Laboratory containing 3 to 5 c.c. of a 5 per cent solution of carbolic acid to kill the germs. This is done to safeguard the laboratory technicians from a possible source of infection.

The tuberculosis samples are received in double containers as are all other samples for diagnosis. The receiving clerk stamps each card and the bottle to correspond so that there may be no doubt in the later identification.

To the bottles containing the sputum and carbolic acid is added "antiformin" which is a mixture of chloride of lime, washing soda and potassium hydroxide. "Antiformin" dissolves the mucus and all other germs which might be present and frees the tuberculosis germs from other materials.

The Concentration Method for Collecting the Germs

Figure 1 shows the receiving clerk adding this "antiformin". There is then added a light oil called "ligroin" and the bottles are shaken in a special machine for fifteen minutes.

By means of this shaking machine, which is shown in Figure 2, the contents of the bottles are mixed thoroughly and the

Figure 2. Shaking machine for thorough mixing contents of tuberculosis bottle

"antiformin" is brought into contact with all parts of the sputum, thus making effective the liberation of the tuberculosis germs.

After shaking, the bottles are centrifuged, or whirled rapidly, for fifteen minutes. This brings the light oil to the top and the heavier liquid containing the antiformin to the bottom. If tuberculosis germs are present they will be found in a layer between the light oil and the heavier liquid. This method of handling the samples is called the concentration method.

Had not the groups of tuberculosis germs been scattered or broken up by the antiformin, it might have been difficult to find them in the specimen if present only in small numbers.

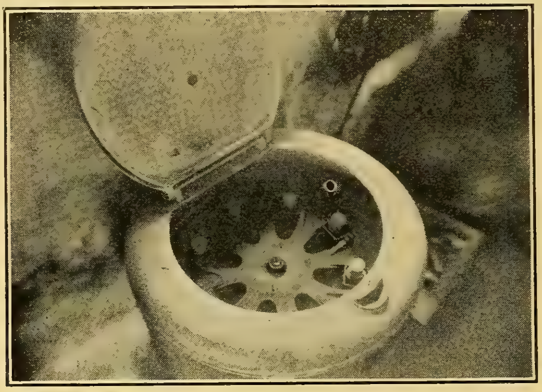


Figure 3. Centrifugal machine in which tuberculosis specimens are whirled

Figure 3 shows the interior of the centrifugal machine by means of which the mixture, so thoroughly shaken, is separated into component layers between which the tuberculosis germs are collected.

Making the Diagnosis

The final steps in the identification of tuberculosis germs are made in the diagnostic division of the laboratory. The bottles are brought here after the preliminary treatment, together with their respective record cards. Unlike the K. L's. the tuberculosis germs do not have to be cultivated, or grown on a special medium for several hours before examination.

If tuberculosis germs are present it is now a simple matter to transfer from the bottles to glass slides some of this material from the upper layer to the under surface of which the germs adhere. This is done by means of a long platinum needle which has been coiled at the end to form a flat loop. New glass slides are always used for this purpose to insure a surface which is quite free from scratches which might later retain some of the stain and give the appearance of the bacillus of tuberculosis and so result in a wrong diagnosis.

This step in the procedure is shown in Figure 4. The worker is seen making the smears on the glass slides, two being made for each sample.

Figure 4. Making smears from tuberculosis specimens

The smears are next dried and fixed on the glass slides by gentle heating on the water bath. From this point a very careful staining procedure must be followed to bring into relief the characteristic rod shaped forms which appear colored red on a blue background.

Figure 5. Staining tuberculosis slides

The smears, made in duplicate, receive two different stains, their slight variation in color serving as a check on the results. The staining must be very carefully done. This is shown in Figure 5. The slides on the water bath are being dried to fix the smears preparatory to the staining. On one smear the worker is pouring "carbolfuchsin" solution of double strength which will remain for four minutes. This allows it to penetrate and stain the tubercle bacilli, if present, a bright red.

This is then washed with water, dipped in acid alcohol to remove any surplus stain not absorbed by the germs, washed again with water, and counterstained with a blue stain called "methylene blue". This produces a blue background wtih the red organisms showing clearly when examined under the microscope.

The duplicate smear is also stained with carbolfuchsin but by a somewhat different method. This also shows red organisms on a blue background.

The final step in the identification of tuberculosis germs is the examination of the stained smears under the microscope.

Figure 6. Searching for tubercle bacilli under the microscope

In Figure 6 this is shown under high power magnification. A careful search is made until all parts are brought into the field of vision. When the characteristic forms appear in the duplicate slides, a positive report is made on the accompanying record form. If the duplicate slides do not check at once, other smears are made and the search is continued until check results are obtained.

Tuberculosis Records

The report blanks, stamped with the final results, are placed on file at the laboratory. Report cards giving the results are mailed to the physician sending the sample, and, if positive, to the Health Officer. Such positive reports are also sent to the Division of Preventable Diseases of the State Department of Health in Hartford, on the daily report blanks. From these they are transferred to special report cards and filed alphabetically under the patient's name. Through this filing system every reported case of tuberculosis in Connecticut is kept on record.

From April, 1923, to April, 1924, a total of 1,401 tuberculosis specimens was examined at the State Laboratory. Of this number 233, or 17 per cent were positive, and 1,163, or 83 per cent were negative.

REPORT OF THE LABORATORY FOR THE MONTH

APRIL, 1924

DIAGNOSTIC DIVISION

	+	—	?	Total
Typhoid	....	19	2	21
Paratyphoid A	....	21	....	21
Paratyphoid B	....	21	....	21
Diphtheria:				759
Diagnosis	52	373	....	
Release	28	306	....	
Diphtheria Carriers:				8
Diagnosis	....	8	....	
Release	....	....	....	
Diphtheria Virulence	2	3	....	5
Tuberculosis	22	110	....	132
Syphilis	186	1,536	73	1,795
Colloidal Gold Test on Spinal Fluids	11	14	....	25
Gonorrhoea	16	52	....	68
Glanders	....	....	....	....
Pneumonia		....		2
Type I	....			
Type II	....			
Type III	....			
Type IV	2			
Malaria	....	3	....	3
Rabies	1	3	....	4
Feces for Typhoid	....	6	....	6
Feces for Paratyphoid A	1	....	....	1
Urine for Typhoid	....	3	....	3
Feces for Amoeba	....	....	....	....
Special	....	....	....	....
Totals	321	2,478	75	2,874

CHEMICAL DIVISION

Milk Examination

Number of towns sending samples	18
Number of samples tested	251
Number of samples below fat standard	14
Number of samples showing low refractive index indicating watering	0

Water Examination

Number of towns sending samples	37
Number of samples examined	131
Number of sewage examined	2
Total number of samples examined in the division of chemistry during the month of April	384

CLINICAL THERMOMETERS

Number of thermometers passing test	171
Number of thermometers rejected	16
Total number of thermometers tested	*187

*7 of these were certified.

THE MENTAL HEALTH CLINIC—WHEN TO USE IT

The increasing interest in mental hygiene during the past few years is undoubtedly due to the greater knowledge of mental health and disease gained in the study of war neuroses. As a result, many conditions are now recognized as mental disorders which previously were classified as some form of physical disease, or as "nervousness," or even as non-medical conditions such as delinquency, vagrancy, and dependency.

Heretofore, the delinquent and vagrant have been punished, and the chronic dependent given financial help, resulting in temporary alleviation and then the repetition of their offenses. The nervous invalid, the hypochondriac, and the hysterical patient continue to display their symptoms in spite of bromides and pepsins, and become increasingly useless to themselves and others. But when the mental disorder back of such conditions is ascertained and attacked with appropriate measures the conditions may disappear or, if that is impossible, an intelligent plan for the future can be made.

Early treatment cannot be too strongly urged. In it lies the hope of cure. Many cases not reaching the physician until adult life have passed the curable stage. But **"Childhood** is the golden age of mental hygiene". In childhood and early adolescence habits of thought are formed and modes of reacting to pleasant and unpleasant situations are developed. If these reaction habits are healthy and commendable the child becomes a well-balanced, likeable individual, mingling happily with his fellows and utilizing his native talents to best advantage. On the other hand, if the child's mental and emotional nature is warped or stunted he becomes an adult fettered by uncontrolled temper, selfishness, moods, shyness, and fears, unable to develop fully his natural endowments, and often unable to form real friendships or satisfactory relationships with others.

Dr. Esther Loring Richards has expressed this particularly well in a recently published article.

"Nervous disorders unassociated with organic cerebral changes do not come upon an individual with volcanic descent, but invariably occur as the culmination of lifelong tendencies to think and act and feel in certain specific ways under the strain of difficulties. Behind the depression and suicidal attempt at fifty is sure to be a man or woman who has always yielded to "moods," who has continually gone more than half

way to meet trouble, and whose habitual reaction to every untoward circumstance of life has been that of brooding, insomnia, discouragement and self-depreciation. The adult who in the course of a year or two relpaces his concrete activities of work and social responsibilities with immobility, day-dreaming, and the answering of imaginary voices . . . was a child whose early behavior should have warned of just such a pathological development. As a child in the home he preferred solitude and inactivity to the healthy stimulation of play; as a schoolboy his teachers found him odd and standoffish; as a workman his employer and coworkers complained of his carelessness, irritability and touchiness. In other words, an individual breaks down in a psychosis, or psychoneurotic state, according to the way in which he has always been accustomed to bend."

To discover these inclinations and secure treatment for them is the duty of the physician, the visiting nurse, the social worker, and the teacher. A list of some of the more common symptoms may suggest which patients and pupils could be benefited by neuropsychiatric care.

Symptoms To Watch For

In Adults an approaching mental or nervous collapse is always preceded by definite signs. The recognition of these signs may prevent the breakdown. Moreover, proper treatment given in time may so stabilize the patient's emotional reactions that the probability of a recurrence of the crisis will be greatly reduced. In adults look for

- Insomnia
- Restlessness
- Early appearance of fatigue after mental or physical exertion
- Inability to concentrate in thinking
- Inefficiency in business
- Loss of weight
- Slight variations in mood
- Depression without cause
- Exhilaration without cause
- Worry without cause
- Hypochondriacal trends of thought
- Feelings of inferiority
- Mild paranoid interpretation of surroundings
- Withdrawals from friends and other companions
- Various slight abnormalities of behavior
- Morbid impulses and interests
- Vague fears
- Obessions of doubt
- Compulsions toward peculiar conduct and thought.

In Adolescents. It is well recognized that during the adolescent period, a boy or girl is in an increased emotional state. Wise guidance at this time and the giving of needed instruction, particularly on matters of sex hygiene, may help many young persons to avoid severe emotional conflicts, which would have a harmful effect on their later life. Among adolescents look for

Falling off in school work
Decreased efficiency in occupation
Lack of interest in daily activities
Abstractedness
Withdrawal into themselves
Feelings of inferiority
Excessive interest in religion
Excessive interest in sex matters
Emotional instability
Irritabilit
Exhibitions of temper
"Hysterical" manifestatic
Fainting spells
Peculiar body sensations, especially of the head
Peculiarities of conduct.

In children. "Those children who can be most benefited by the clinic usually possess normal intellectual powers, but have something wrong in their attitude, or behavoir, or interests, or personality make-up . . . Serious personality defects, abnormal mental and nervous conditions, mental twists and conflicts that point in no uncertain fashion to failure in life, to shipwreck in business and domestic affairs, or to actual mental breakdowns and, later, insanity, are discernible in childhood, and strikingly enough, often in the pre-school period." One clinic treating only children of pre-school age has grouped these symptoms in the following list.

I. **Physical condition.** (which, *after* a physical cause has been ruled out, may be suspected to be due to *habit.*)

1. Disturbances of sleep—wakefulness, restlessness, night terrors, sleep-walking.
2. Lack of normal appetite—insufficient appetite, excessive, capricious, perverted.
3. Disturbance of eliminative functions—incontinence of urine or faeces, day or night. Difficult urination, constipation. Vomiting—persistent or associated with correction or with some disagreeable duty.
4. Convulsive attacks. Holding the breath in crying, or in a tantrum; hysterical spells; overactivity.
5. Headaches—in absence of physical cause may be nervous habit, or used, without conscious intention, to avoid some disagreeable experience.

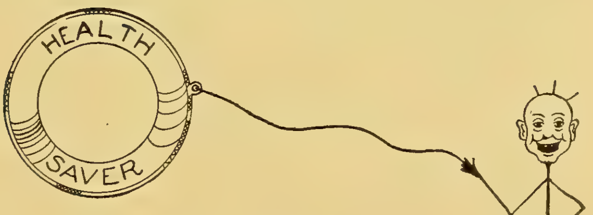
6. Speech defects—baby talk (prolonged); stuttering, mumbling.
7. Miscellaneous nervous habits—habit motions of mouth or body; nail-biting; thumb-sucking.

II. **Mental Conditions or Personality Traits.** (Usually an exaggeration of something that is normal at the right time and in the right degree.)

1. Withdrawing of attention and interest from real life; day-dreaming, excessive make-believe.
2. A "turning in" of the personality—shyness, self-centeredness, lack of self-confidence.
3. Fears—of particular objects, or general timidity.
4. Unusual attachments or dislikes.
5. Premature or unusual sex manifestations—lack of modesty or excessive modesty; over-sensitiveness about sex or unusual interest; masturbation.
6. Obstinacy or negativism.
7. Temper tantrums.
8. Over-self-assertion—domineering, demand for attention, pugnacity.

III. **Asocial Conduct.**

1. Running away.
2. Lying.
3. Stealing.
4. Destructiveness, fire-setting.
5. Sex assaults.
6. Cruelty.



When your future's looking blue
Or the world' mistreating you
And you're depressed,
Take your little mental twist
To a good psychiatrist
And get back the joys you've missed.
Live your best.

Vital Statistics

March, 1924

Births

Since 1920 the births for the month of March have constantly decreased and this year the number was 2,666, a decrease of 43 over the total of 2,709 reported last year. The average number of births over the period 1919-1923 is 2,910 and 1924 is therefore 244 below this average.

Of the towns over 5,000 in population 21 reported more births for this year when compared with 1923. The following reported increases of 10 or more, the figures after each town or city indicating the actual increase: Bristol, 12; Hartford, 44; Torrington, 12; Waterbury, 35.

There were reported 91 stillbirths, a decrease of 20 over the 111 reported in 1923. The combined total of living and stillbirths for 1924 is 2,757 and of this total the 91 stillbirths constitute 3.30 per cent. In 1923 the combined total was 2,820 and the 111 stillbirths were 3.94 per cent of the total.

Deaths

The month has produced another decrease in the number of deaths over the same month for 1923. In 1924, 1,743 deaths were reported as compared with 1,959 in 1923. This indicates the substantial and gratifying decrease of 216. As there were decreases for January and February totalling 534 it appears that 760 fewer deaths have been reported when comparing 1924 with 1923. This is an encouraging experience. The following table gives a comparison between 1924 and 1923 with respect to certain diseases.

CAUSE OF DEATH	1924	1923	INCREASE	DECREASE
Diseases of the Heart	258	221	37	....
Encephalitis Epidemic	3	17	....	14
Pneumonia, Undefined	11	10	1	....
Typhoid Fever	4	2	2	....
Measles	5	34	....	29
Scarlet Fever	7	8	....	1
Whooping Cough	5	21	....	16
Diphtheria	17	20	....	3
Influenza	34	170	....	136
Tuberculosis, Pulmonary	97	107	....	10
Tuberculosis, Other forms	8	15	....	7
Cancer	125	106	19	....
Cerebrospinal Meningitits	2	5	....	3
Poliomyelitis	1	0	1	....

CAUSE OF DEATH	1924	1923	INCREASE	DECREASE
Pneumonia, Lobar	121	135	....	14
Pneumonia, Broncho	133	161	....	28
Diarrhoea and Enteritis, Under 2	18	10	8	....
Puerperal Diseases	13	24	....	11
Accident	75	72	3	....
Suicide	11	15	....	4
Homicide	2	3	....	1
Other Causes	793	803	....	10
Totals	1,743	1,959	71	287

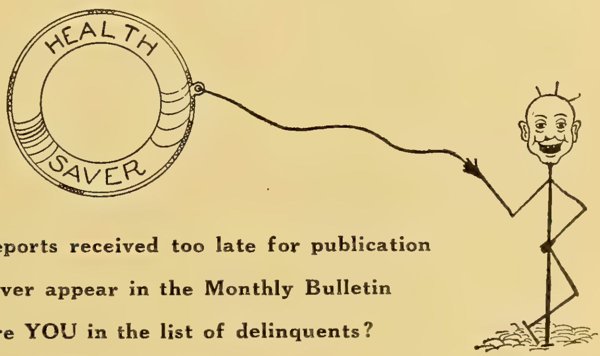
It will be observed that there is a net decrease of 177 in the pneumonias and influenza. There are also decided decreases in measles, whooping cough and encephalitis epidemic, and a very favorable decrease in puerperal diseases. The percentage of the total deaths due to communicable diseases has been reduced from 18.7 in 1923 to 9.9, a reduction of nearly 50 per cent. And for the last six years this percentage of 9.9 is by far the most favorable, the nearest approach being in 1921 when the figures were 14.2. Of the 75 accidental deaths, 16 were due to automobile accidents.

Infant Mortality

The deaths of infants under one year number 229 as compared with 260 in 1923, a decrease of 31. These figures yield a mortality rate of 89.2 per 1,000 living births for 1924 and a rate of 101.7 for 1923.

Marriages

The number of marriages made a decided upward turn, jumping from 490 a year ago to 644 in 1924, an increase of 154. However, the marriages for 1922 and 1923 were well below the average, neither year numbering 500.



Reports received too late for publication

never appear in the Monthly Bulletin

Are YOU in the list of delinquents?

Births, Marriages and Deaths

March Statistics 1924	Population Based on U S Census Est. as of July 1, 1924	TOTALS: Births	Still Births	Marriages	Deaths	DEATH RATES: All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	AGE GROUPS: Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,502,405	2666	91	644	1743	13.9	0.8	89.2	229	91	649
Ansonia	18,798	17	2	7	23	14.7	....	105.9	3	2	5
Branford	6,895	7	....	2	8	13.9	....	233.0	2	1	2
Bridgeport	162,491	286	10	78	163	12.0	0.7	84.5	23	16	49
Bristol	23,918	53	2	12	15	7.5	0.5	129.9	6	1	....
Danbury	21,981	37	4	9	35	19.1	1.1	22.8	1	....	18
Derby	12,279	38	....	4	20	19.5	....	137.3	5	1	5
East Hartford	13,274	16	....	4	11	9.9	....	....	....	1	6
Enfield	12,629	31	2	12	16	15.2	....	121.6	3	....	4
Fairfield	13,950	21	2	1	7	6.0	....	115.9	2	....	3
Glastonbury	5,960	5	....	3	4	8.1	....	....	....	....	2
Greenwich	24,674	34	....	55	25	12.2	1.0	82.4	3	....	9
Groton	10,493	11	....	8	15	17.2	....	222.2	3	....	9
Hamden	9,890	10	1	4	10	12.1	....	67.8	1	1	3
Hartford	156,169	370	12	90	194	14.9	0.9	99.2	32	14	44
Killingly	8,905	15	3	6	10	13.5	1.3	....	....	2	3
Manchester	20,561	44	2	3	17	9.9	....	117.1	4	2	7
Meriden	36,014	69	1	12	54	18.0	1.7	62.7	4	2	22
Middletown	22,554	51	....	4	52	27.7	2.1	100.3	5	2	19
Milford	12,893	13	....	1	18	16.7	0.9	76.4	1	2	7
Naugatuck	16,130	19	2	2	10	7.4	0.7	65.6	1	....	6
New Britain	66,370	126	3	18	62	11.2	1.1	65.5	9	3	14
New Haven	175,827	356	9	76	235	16.0	0.7	97.1	32	14	75
New London	28,421	61	2	16	36	15.2	0.4	79.9	5	5	13
Norwalk	29,292	58	1	14	38	15.6	2.0	164.1	8	1	16
Norwich	30,303	69	2	13	61	24.2	0.8	60.5	4	3	27
Plainfield	8,465	5	....	2	5	7.1	....	75.5	1	....	1
Plymouth	6,315	6	....	....	4	7.6	....	117.6	1	....	3
Putnam	8,894	17	....	5	15	20.2	....	122.4	2	1	11
Seymour	7,705	7	....	2	4	6.2	....	108.1	1	....	2
Shelton	10,833	21	....	2	15	16.6	....	....	....	1	7
Southington	9,331	13	1	4	3	3.9	....	....	....	....	2
Stafford	5,456	13	....	3	3	6.6	....	....	....	....	1
Stamford	45,157	82	6	25	55	14.6	0.8	67.4	6	2	23
Stonington	10,718	19	1	4	11	12.3	1.1	218.2	3	....	3
Stratford	15,422	16	2	3	13	10.1	....	221.2	4	....	4
Thompson	5,171	13	....	1	3	7.0	....	....	....	....	2
Torrington	24,055	43	1	5	19	9.5	1.0	80.1	3	....	12
Vernon	8,822	13	....	6	12	16.3	....	93.0	1	1	6
Wallingford	12,405	22	....	2	10	9.7	1.0	65.6	1	....	8
Waterbury	100,291	235	6	38	93	11.1	0.6	80.1	15	5	25
Watertown	7,016	8	....	2	5	8.6	....	110.1	1	....	1
West Hartford	10,729	17	....	3	12	13.4	....	68.2	1	....	6
West Haven	17,354	19	1	8	25	17.3	....	64.5	2	....	5
Westport	5,509	5	....	5	8	17.4	....	164.3	1	1	4
Winchester	9,095	23	....	7	17	22.4	1.3	164.3	3	....	7
Windham	14,265	24	2	....	16	13.5	....	33.2	1	2	7
Windsor	6,287	5	1	4	5	9.5	1.9	413.8	3	....	....
Towns under 5,000	212,439	223	10	59	251	14.2	0.4	88.6	22	5	141

for the month of March, 1924

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis—Pulmonary	Tuberculosis—Other Forms	Cancer	Meningitis—Cerebro-Spinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea and Enteritis under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
258	3	11	4	5	7	5	17	34	97	8	125	2	1	121	133	18	13	75	11	2	600	260
5							1				4	1			1	1			1			
		1												1	1							
25	2				1	1	5	2	9		13			9	10	1		7	2		61	5
2											1				3	1		1				2
7									2		2			2	2	1		4			13	10
3							1	1						2	1			1			8	7
5					1						1			1								
2								2			3				2	1					1	1
2								1														1
											2			1								
6	1								2		2						1	1			12	3
3																		1			1	
4														1								
27				2	3		3	1	8	1	13			19	17	4	4	9			113	38
1		2							1					1								
1						1		1			2				1	2			1		6	2
8			1			2		2	3		6			4	3	1		3			13	5
8		1							4		2			2	4			2		1	36	23
1					1				1	1	1			2	1			3			1	5
2									1		1			1								
8							1	3	6		1			5	6	1	1	2			16	3
17		1	1				1	5	6	2	18			21	24	2	3	15	3		118	27
3				1							2	1		3	6	2		2			20	11
5								1	1		3			4	2			3		1	5	1
13		2					1	1	6		2			2	3			6			23	8
1																		2				
											1				1							2
5		1									2			1	1				1		6	3
								1														
2									7		1		1	1							7	7
1											1											
																			1			1
12				2			1	1	2	1	5			2	4			1			19	9
		1	1											1	1							
1		1									1			1	1		1					
2																			1			
2								4	2		1				1			1			1	1
3		1									2				1	1						
2									1												2	1
8					1		2	3	4	1	10			7	4		1	4			37	14
														1	1							
2											1				1						5	3
2			1						13		1			1	3						13	13
							1								1				1		1	2
1											1			1	1		1				9	3
3											3				3						2	1
														1	2							
53						1		5	18	2	16			23	20		1	7			51	48

Six Year Study—March, 1919-1924

CONNECTICUT	1919	1920	1921	1922	1923	1924
BIRTHS *Birth Rate*	2921 23.9	3173 27.3	2979 25.2	2770 23.0	2709 22.0	2666 21.3
DEATHS *Death Rate*	1955 16.0	1802 15.5	1492 12.6	1921 15.9	1959 15.9	1743 13.9
MARRIAGES *Marriage Rate*	626 5.1	527 4.5	645 5.4	428 3.5	490 4.0	644 5.1
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	487 24.9	381 21.1	213 14.2	345 18.0	367 18.7	172 9.9
DEATHS UNDER 1 YEAR *Rate per 1000 births*	331 116.6	291 102.2	248 87.3	269 103.2	260 101.7	229 89.2

*Includes: Typhoid Fever, Measles, Scarlet Fever, Whooping Cough. Diphtheria, Tuberculosis Pul., Cerebro-Spinal Men., Poliomyelitis, Influenza.

Towns from which no report has been received, March, 1924*

BIRTHS	MARRIAGES	DEATHS
Burlington	Burlington	Cornwall
Canaan	Canaan	East Haddam
Canterbury	Cornwall	Franklin
Clinton	East Haddam	Ledyard
Columbia	Franklin	Madison
Cornwall	Haddam	Orange
East Haddam	Madison	
Franklin	Newington	
Haddam	Orange	
Madison	Plymouth	
Middlefield	Prospect	
Morris	Trumbull	
Orange	Waterford	
Prospect	Wethersfield	

*This bulletin goes to press the 5th of each month.

DRAINAGE OF SWAMPS ON WATERSHEDS

Swampy areas on watersheds very often impair the quality of a water supply. Such areas may at times be responsible for high color or disagreeable odors and tastes. Organic matter from swamps may also serve as food supply for bacteria or other micro-organisms and render the water generally unpalatable.

As a health necessity, it is important that the public water supply be of such quality that it can be freely used for all domestic purposes. The attention of the State Department of Health, however, has been directed to several instances where the effects of swamps were such that the consumers curtailed the use of the water for both drinking and domestic purposes. While the Department believes that water should not be wasted, it also believes that its use should not be curtailed on account of inferior quality.

The instances brought to the attention of the Department in which swamp drainage has adversely affected water supplies, serve as convincing evidence that bacterial purity is not the only requirement to be met by a public supply. It is gratifying to report, however, that this is recognized by the officials of several waterworks in the state and efforts are voluntarily made to produce a pleasant and palatable water as well as a safe one.

Drainage Method on Southington Watershed

An example of this is the drainage of the swamp on the watershed of the Southington supply described in this issue by Mr. Lotz, who had charge of the work. In many cases it is neither very difficult nor expensive to drain swamp lands on watersheds and very often considerable improvement in a supply can be effected at a nominal cost. It is generally better for those furnishing water for domestic use to make such improvements than to be callous to the right of the public to obtain a palatable as well as a safe water supply.

SWAMP DRAINAGE

By E. H. Lotz, Civil Engineer, Southington, Conn.

For some years past the water department of the Town of Southington (S. H. MacKenzie, Superintendent) has been troubled with high color in its number 2 reservoir. This was traced to a swamp containing about 15 acres, located a short distance from the reservoir. Several plans were considered to eliminate this trouble and finally it was decided to try drainage. A ditch was laid out completely surrounding the swamp, picking the way for solid bottom, grade, and least work necessary. The swamp being enclosed by higher land with well defined slope, this was easily done. Several springs were intercepted and lead into channels.

Ditch Blasted through Rough Ground

Hand labor was first used but this was extremely slow and expensive. Blasting was resorted to. The work was in charge of a practical man with a lot of experience in blasting. Charges of about one-half stick were used, placed about three

feet apart, each with a detonater, and exploded with a battery, about 30 to a shot. Where stumps and stones were encountered heavier charges were used. The labor and powder for 4,260 feet of ditch were $483.21. Cost of blasted ditch per foot was 11.3 cents; about 10 cents a foot additional was paid for cutting brush and cleaning bottom and sides of ditch to aid run off—this as against 35 cents per foot for 2,075 feet of dug ditch which is much smaller in size than the blasted ditch.

The results are very satisfactory, the color being almost entirely eliminated, in addition to which the run off from this section is increased to a considerable extent. The swamp can now be traversed by foot.

STERILIZATION OF SWIMMING POOLS

Accurate control of the chlorine applied to swimming pools is difficult to maintain due to the fact that the perspiration, hair and skin particles from the bodies of the bathers make the organic content of the pool so high that the chlorine is used up very rapidly. Tests showing an excess of chlorine at the inlet end of the pool showed practically no chlorine present at the outlet end, a distance of 60 feet.

When the dose is increased to meet such a condition, chlorine gas is noticeable at the sides of the pool, unless the piping and apparatus is in perfect condition. Cases have been known where the chlorine gas short circuited either around one end of the pool or along the sides so that there were several dead spaces in the pool where practically no sterilization was effected.

All this indicates clearly the necessity of having the pool attendant thoroughly familiar with the chlorinating apparatus and with the properties of chlorine gas and what they are supposed to accomplish.

VENEREAL DISEASE CLINICS IN CONNECTICUT

There are now located in the State of Connecticut a number of clinics and treatment stations where physicians may refer indigent cases of syphilis which are unable to pay for private treatment. The following directory will show these institutions, and if there is no place in your immediate vicinity, arrangements for treatment can be made through your local health officer.

CLINICS

City	Street Address	Physician	Hours
BRIDGEPORT	Welfare Bldg., Washington and Madison Avenues.	Halford Kneal, M. D.	Mon. and Thurs., 9-10.30 a.m
HARTFORD	Board of Health Clinic, 39 Arch St.	C. S. Stern, M. D.	Mon., Wed., Fri., 6-8 p.m.
NEW HAVEN	Municipal Clinic, 1423 Chapel St.	I. Kleiner, M. D.	Daily 8.30-9.30 a.m. Mon., Wed., Fri., 6.30-7.30 p.m.
NEW LONDON	39 Church St.	R. E. Black, M. D.	Wed., 8 p.m.
STAMFORD	City Hall.	B. S. Weaver, M. D.	Mon., Wed., Fri., 7-8.30 p.m.
WATERBURY	G. U. Clinic, City Hall.	J. W. Fruin, M. D.	Tues., Fri., 5-6.30 p.m. Wed., 10-11 a.m.

The following communities are not of sufficient size to support a clinic, and arrangements have been made with the following physicians to care for these cases when necessity demands.

TREATMENT STATIONS

Town	Street Address (if any)	Physician
FARMINGTON		S. E. Phelps, M. D.
MERIDEN	50 E. Main St.	J. A. Cooke, M. D.
MIDDLETOWN	28 Crescent St.	Jessie W. Fisher, M. D.
NAUGATUCK	295 Church St.	T. M. Bull, M. D.
NEW BRITAIN	City Hall, Dept. of Health	R. W. Pullen, M. D.
PUTNAM	198 Main St.	K. T. Phillips, M. D.
WILLIMANTIC		
COLCHESTER	Worthington Block.	E. J. Howland, M. D.
BRISTOL	57 Prospect St.	R. J. Boyle, M. D.
SOUTH NORWALK	67 South Main St.	F. I. Burnell, M. D.
DARIEN	Sedgwick Ave.	Wm. Slaughter, M. D.
WALLINGFORD	45 Church St.	W. J. Riordan, M. D.

The following institutions are being supplied with salvarsan by the State Department of Health and are reporting monthly to this Department. Arrangements for treatment at these institutions can be made by communication with the superintendent.

CO-OPERATING INSTITUTIONS (Misc.)

MERIDEN	Meriden Hospital.
NEW HAVEN	New Haven General Hospital.
NEW HAVEN	Springside Hospital.
NEW HAVEN	Dispensary, 321 Congress Ave.
BRIDGEPORT	St. Vincent's Hospital.
WATERBURY	St. Mary's Hospital.
HARTFORD	House of Good Shepherd.
HARTFORD	Dispensary, 56 Winthrop St.
HARTFORD	St. Francis Hospital.
NEW BRITAIN	New Britain General Hospital.

STATE INSTITUTIONS

WETHERSFIELD	State Prison.
NIANTIC	State Farm for Women.
MIDDLETOWN	State Hospital for Insane.
CHESHIRE	Cheshire Reformatory.
NORWICH	Norwich State Hospital.
MIDDLETOWN	Long Lane Farm.

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 38 June, 1924 No. 6

This Issue Contains

STANLEY H. OSBORN, M. D., C. P. H., Commissioner.

ISSUED BY
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HARTFORD

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Telephone, 2-2205 (Exchange)

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BUREAU OF LABORATORIES
135 Huntington St., New Haven
Telephone, Liberty 453

ALL CORRESPONDENCE, except for laboratory outfits, should be directed to
THE STATE DEPARTMENT OF HEALTH, HARTFORD

CONNECTICUT

HEALTH BULLETIN

Vol. 38 June, 1924 No. 6

Issued Monthly by the

STATE DEPARTMENT OF HEALTH

THE LABORATORY DETERMINES THE QUALITY OF MILK

With the increasing demand for adults and children to join the "milky way" to health there should be emphasized the need for clean milk of standard quality. The good old days of cheap milk of poor quality are no more—the public has grown more and more insistent that milk shall be produced under sanitary conditions and the service required for this rightly adds to the cost of its production. Milk service of the present day is not the simple service of former days. Instead of reaching our door by the direct route from the farm, it may be produced one hundred or more miles away and distributed from a central point together with the milk from many other sources. While such modern distributing plants are well equipped for rapid cooling, pasteurizing, bottling directly in sterile bottles and sealing—almost untouched by human hands, it may still be of inferior quality. Milk produced under insanitary conditions will show a high bacterial content; stock may be retained which produce milk of low fat content; again, by modern animal experimentation it may be found that the vitamin content is low due to a poor quality of feed.

Laboratory tests, together with a frequent inspection of the dairy where the milk is produced will determine the quality of milk and give the public information about its most important food. The laboratory of the State Department of Health is in a position to give the consumer detailed information about the quality and cleanliness of its milk supply. Not all towns take advantage of this service, but it is available to all and should be used more freely.

During a recent visit to the Laboratory when the hands of the clock were nearing closing time and the laboratory technicians were thinking that possibly they might complete their work on time, there came in a case of milk samples which must be attended to at once. This is shown in Figure 1.

Fig. 1. Case of milk samples for examination

The spirit with which the initial testing was done, even at this late hour, showed that emergencies were only the daily routine in the laboratory.

Here then, was a wonderful opportunity to watch from the beginning the procedure of milk examination. The samples are received in half-pint bottles, sealed, iced and carefully marked. These bottles have been sent out, sterile, and six in each case, upon the request of health officers or milk inspectors. With each case are sent explicit directions for collecting the samples as well as for shipping.

Directions for Collection of Samples

"Care should be taken to secure a sample which is entirely representative of the milk to be examined. Before taking milk from a can or tank it should be thoroughly mixed, in order to insure its being uniform throughout. The sterile half-pint bottle should be completely filled and the cap which was on the bottle should be replaced. Then one of the paraffined caps which will be found in an envelope in the shipping case should be placed tightly over the first cap. This is important, as it will prevent water from the melted ice entering the bottle. After putting the bottles in the shipping case, the wooden bar must be placed in position and securely bolted, and the case completely filled with ice. If the shipping case does not have the wooden bar, samples should be packed securely by means of newspaper."

Directions for Shipping

"Generally speaking, the shorter the time between collection and examination of milk samples, the lower will be the bacterial counts. It is very important that samples be kept properly iced

during the interval between collection and arrival at the laboratory. Whenever possible, samples should be brought at once to the laboratory after collection. Samples sent by express should be shipped as early in the morning as possible so that they will reach the laboratory the same day, and should be shipped not later in the week than Thursday morning."

If these precautions are taken they will insure a representative sample of milk incontaminated by careless collecting, and cold enough to inhibit the growth of bacteria during transit. Many milk inspectors have their own cases for milk samples. Sometimes larger samples are sent as shown in Figure 2.

Both bacteriological and chemical tests are made on each sample. After recording the samples as to dates, name of collector, and town, and assigning a number to each, small portions are plated out for the bacterial count. This is shown in Figure 2.

Fig. 2. Plating out milk samples for bacterial count

Each sample is shaken thoroughly (about 25 times) in order to break up any clumps of bacteria that may be present and to distribute the bacteria evenly. As all milk contains a fairly large number of bacteria it is necessary to dilute the samples in order to secure a field in which the bacterial colonies are separated sufficiently to be counted. Three dilutions are made as shown in Figure 2; 1—100; 1—1,000; 1—10,000 These are made as follows: 1 c.c. of milk is withdrawn by means of a sterile pipette and added to a sterile bottle containing 99 c.c. of sterile water. This gives a dilution of 1—100. This is shaken thoroughly to distribute the bacteria. Then 1 c.c. of this is withdrawn with a sterile pipette and placed in a sterile petri dish to which is added melted agar. This is gently rotated to distribute the bacteria evenly. It becomes solid as it cools and this is placed in the incubator

at 37° C. for 48 hours. This nutrient agar has been prepared as the medium best suited to the growth of the bacteria ordinarily found in milk. The worker in Figure 2 is seen making the dilutions and plating out the samples in sterile petri dishes. The 1—1,000 dilution is made by taking 0.1 c.c. of the first dilution and plating it directly into a petri dish, and the 1—10,000 dilution is made by adding 1 c.c. of the first diluted sample to 99 c.c. of sterile water, shaking thoroughly and plating 1.0 c.c. of this.

In Figure 2 may be seen the three petri dishes for each bottle of milk, each carefully marked and ready to receive the diluted samples. The first bottle of milk at the left has been so plated out, and the other bottles stand ready for the routine treatment. The three diluted samples may be seen in the small bottles.

After the first bottle in a shipment has been plated out, a thermometer is inserted to determine the temperature at which this milk was received. This is recorded on the special laboratory form. When samples are received insufficiently iced a higher temperature will be recorded. As this is more favorable to the growth of bacteria in transit the total bacteerial count under these circumstances will not be a true indication of its original content.

Fig. 3. Counting bacterial colonies on milk samples

After 48 hours in the incubator at 37° C. (body temperature) the milk samples are examined as shown in Figure 3. Each dish is placed on the frame over a glass disk subdivided into sections to facilitate counting. The light is adjusted below and the worker with a hand lens counts the bacterial colonies in a representative number of these sections, recording the number by means of the counter shown in her right hand.

Fig. 4. Bacterial colonies on milk samples which have been incubated 48 hours at 37° C.

Incubation at 37° C. gives favorable conditions for the growth of the bacteria on the nutrient agar medium. Bacterial colonies appear as shown in Figure 4. Each of these colonies is the growth of a single bacterium or germ and the total count indicates the number of bacteria in the original sample. When sections of such a plate are counted the bacteria on the complete surface area are determined from the content of that portion counted. This is multiplied by the dilution 100 - 1,000 or 10,000—and recorded on the special form as total bacterial count per c.c.

Fig. 5. Filtering the milk through a cotton disk

After the samples are plated out for the bacterial count, the dirt test is made. This is done by using a special filter as shown in Figure 5. The milk bottle is inverted over an empty bottle and by forcing air into the upper bottle, the milk

is forced into the lower bottle through a cotton disk which has been inserted in the filter. This disk receives all the dirt in such a one-half pint sample of milk. It is removed from the filter and attached to the report card which stands ready, with its number corresponding to the sample.

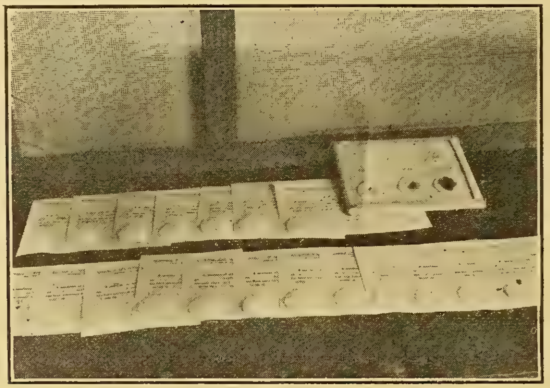


Fig. 6. Cotton disks on which milk samples have deposited their dirt content

When the disk is dry the dirt shows very plainly and may be compared to the standard shown in the upper corner of Figure 6. From this comparison each sample of milk is scored according to its cleanliness 100 per cent, 95 per cent, 75 per cent, as the case may be. Good milk should not score less than 90 per cent.

There remains two other tests which are routinely made on milk samples, the refractometer test for evidence of watering, and the Babcock test for its fat content.

Fig. 7. Collecting the milk serum for the refractometer test

To make the refractometer test for the presence of added water 10 c.c. copper sulphate solution is added to 40 c.c. milk which results in the precipitation of the casein. This is filtered to remove the casein and the mixture containing copper sulphate and milk serum is used for the reading. This step is shown in Figure 7, the liquid being received in the small beakers into which the refractometer fits. This test depends on the fact that 10 c.c. copper sulphate solution made up to a certain strength will give a reading of 36 on the refractometer scale at a temperature of exactly 20° C.

Fig. 8. Reading the Refractometer scale

The reading of the scale of the refractometer is shown in Figure 8.

The refractometer fits into the little beakers containing the milk serum and copper sulphate. The temperature of this solution must be kept at 20° C., so the rack of beakers is inserted in a water bath which is regulated to maintain this temperature. The refractometer is an instrument with an inner graduated scale which, read as shown in Figure 8, will indicate whether or not the milk has been watered. Any reading below 36 on the refractometer scale indicates that water has been added. Some laboratories take the specific gravity of milk—and, if a high water content is indicated, a refractometer test is subsequently made. In this laboratory, however, refractometer reading is taken as routine for each sample.

To determine the fat content of milk the Babcock test is made. This is done by the addition of sulphuric acid which liberates the fat from milk. The milk is shaken thoroughly and 17.6 c.c. are withdrawn with a pipette into a Babcock bottle shown in Figure 9. An equal amount of acid is added and the bottle is whirled in a Babcock centrifuge which is

Fig. 9. The Babcock test for fat content of milk

also shown in Figure 9. After centrifuging for five minutes, warm water is added to the bottle and the fat which has been liberated by the acid, rises into the narrow neck which is graduated directly into per cent. The column of fat is then measured and compared with the space at the zero mark which gives the exact per cent of fat in the sample of milk.

Thus milk is tested at the laboratory. The standard of quality for milk is determined by State laws and milk is graded according to its cleanness—the number of bacteria per c.c., the amount of visible dirt—its fat content (Connecticut law states that milk must have 3.25 per cent fat.) The laboratory test shows whether the milk comes up to this requirement. If not, the dealer can be prosecuted. If the milk sample shows a high fat content, the milk dealer can justly claim credit for a high grade of milk provided his milk shows an equally high standard of cleanliness.

The Laboratory test determines evidence of watering by its refractometer test and so protects the public from fraudulent practice. By reporting such findings the laboratory aids in the prosecution of such offenders. The record of each test on the milk sample is recorded on a special laboratory form. This reports the name of the town from which sample was sent, name of the sender, date of collection, date received, whether iced, its temperature, the laboratory number (each sample having been consecutively numbered as received,) the name of the producer, or dealer and his special number and address—together with a record of the bacterial count, fat content, refractometer reading, dirt record and a general grade. This is the permanent record kept at the laboratory.

When the tests are completed, five typewritten reports are made for each sample of milk and mailed respectively to the

main office of the State Department of Health in Hartford, the sender of the sample who gives the individual reports to the dealer from whom the sample was secured—to the State Dairy and Food Commissioner—to the County Health Officer and one copy is retained at the laboratory to be filed under the name of the town where it was produced. With each consignment of milk samples a blank is received on which appears the name of the dealer and number of each individual sample. These individual samples are reported separately and the report is sent to the one who sent in the consignment.

This report which goes to the persons named above, gives the bacteria per c.c., the fat per cent, the refractometer reading, the percentage of cleanliness and a general grade. The interpretations of these results is given on the back of such reports as follows:

"Bacteria in Raw Milk

Below	10,000	per c.c.	excellent
From 10,000 to	50,000	per c.c.	good
From 50,000 to	100,000	per c.c.	fair
From 100,000 to	500,000	per c.c.	unsatisfactory
From 500,000 to	1,000,000	per c.c.	bad
Over	1,000,000	per c.c.	very bad

When milk contains over 500,000 per c.c. it indicates that conditions are unsatisfactory and should be inspected. The milk is usually produced under insani tary conditions, or is too warm or has been kept too long.

Fat

Milk must show 3.25 per cent of fat to be up to legal standard.

Refractometer

Refractometer reading under 36 indicates watered milk.

Dirt

In reporting dirt by percentage an arbitrary scale is used in which 100 per cent clean indicates no dirt. Milk drawn and shipped under clean conditions should not grade below 90 per cent.

General Grade

The general grade is determined by combining the figures for bacteria, fat, refractometer and dirt

100 being a perfect score in which the fat is 4.5 or above, the bacteria below 5,000, the refractometer 37.5 or above and the cleanliness 100 per cent."

Were all milk in the State inspected and the results published at frequent intervals, the public would learn to judge milk by these standards and demand for their own supply, milk of high quality.

Laboratories

REPORT OF THE LABORATORY FOR THE MONTH OF MAY, 1924

DIAGNOSTIC DIVISION

	+	—	?	Total
Typhoid	3	21	1	25
Paratyphoid B	....	21	4	25
Paratyphoid A	....	24	1	25
Diphtheria:				586
Diagnosis	14	280	....	
Release	42	250	....	
Diphtheria Carriers.				0
Diagnosis	....	....	....	
Release	....	....	....	
Diphtheria Virulence	2	1	....	3
Tuberculosis	23	84	....	107
Syphilis	191	1,316	94	1,601
Colloidal Gold Test on Spinal Fluids	9	6	....	15
Gonorrhoea	7	45	....	52
Pneumonia:		....		....
Type I	....			
Type II	....			
Type III	....			
Type IV	....			
Malaria	....	4	....	4
Rabies	....	4	....	4
Feces for Typhoid	....	8	....	8
Feces for Paratyphoid A	....	....	....	....
Urine for Typhoid	....	3	....	3
Feces for Amoeba	....	....	....	....
Special	....	....	....	....
Totals	291	2,067	100	2,458

CHEMICAL DIVISION

Milk Examination

Number of towns sending samples	18
Number of samples tested	203
Number of samples below fat standard	10
Number of samples showing low refractive index indicating watering	0

Water Examination

Number of towns sending samples	48
Number of samples examined	133
Number of sewage examined	0
Total number of samples examined in the division of chemistry during the month of May	336

CLINICAL THERMOMETERS

Number of thermometers passing test	109
Number of thermometers rejected	32
Total number of thermometers tested	*141

*65 of these were certified.

Child Hygiene

FOLLOW-UP WORK IN THE FIELD

It is a comparatively easy task to organize a Well Baby Conference in any town, to open it successfully, and to get its work well under way. To keep the Conference on a permanent basis, however, is the test of the real value of child hygiene work. This depends largely upon the friendship and co-operation of the local doctors and of the local lay workers. But even this will be of no avail if the follow-up work is not in the hands of a well trained field worker. It is upon the quality of her service that the whole work turns forward towards success, or backward towards failure.

The field worker in the Bureau of Child Hygiene must be adaptable in order to reach her families. Of course her entrance into the home is a pleasure only, "through the child." Every mother is only too willing to learn something which will benefit her children. But the situation of a stranger coming into the house with a method which differs from the cut and dried old fashioned methods that have been handed down from their grandmothers, is, indeed, a delicate one and must be handled with the utmost care. Haste, above all things, is destructive. It may take months for the mother with five or six apparently healthy children to see how essential it is for her two months old baby to sleep out of doors. The change cannot be brought about in one visit of the worker. Although the majority of people have a great deal of faith in a nurse's judgment it is the baby, the most precious member in the family, who is involved. Conversation works very well with most human beings, and if the worker is able to drop a few remarks, such as—"Mrs. A's baby sleeps out of doors in all weather and has not had a cold all winter;" "'Mrs. B's baby has such rosy cheeks, sleeping every minute out on the porch and making no bother or worry at all for Mrs. B." It will not be long before the worker will realize how much the follow-up work means when as a result, she sees the baby carriage on the porch, whereas, before this, only the wash on the line had proclaimed the little one's existence.

The question of correct diet is an important one, and as a rule the mothers accept the suggestions made by the worker along these lines. At times however, it is rather discouraging to find, after repeated visits, that the children are still drinking coffee, but if the worker is resourceful she will find a way.

Many times the mothers say the children do not like milk, and in one such case, the worker herself offered the child some milk which she drank.

Field Notes

First, a twenty mile drive up hill and down dale and, of course, over all the bumps that occur even on a State Highway in the spring of the year. At the end of the drive lay a pretty Connecticut village part industrial and part rural, with the usual Main Street and long rows of substantial mill tenements. The Ford, glad to rest after its efforts to make the hills on high, came to a stop in one of the lanes leading to the mill settlement, and the field worker stepped out on her round of visits. First, posters announcing the date of the next Well Baby Conference were put up in the two stores in the Mill Village. Then a call was made on a French mother who could speak no English. An interpreter gladly served and René, a two year old who had put in an appearance at the last Conference, with an abscess in his ear, was brought forth from under the table by a smiling and triumphant mother. The interpreter stated that an immediate visit had been made to the office of the family physician on the recommendation of the Conference physician, and treatment had been instituted. A very pink ear was exhibited and no sign of any discharge was visible. René evidently connected the field worker with his painful experience at the doctor's office, and as soon as he could, retired to the seclusion of the pantry. The worker's approval of the prompt attention to the physician's advice was conveyed to the mother through the interpreter.

The next visit was made on three boys, all under five years of age, who had been examined and found to have enlarged tonsils. The mother discussed the situation with the worker and agreed to have the operation as soon as the family physician could make the arrangement with a specialist. The purpose of the Well Baby Conference was pointed out, and diet problems were discussed at some length.

A few blocks further, two little sisters were visited, one of whom had passed a perfect physical test, but the other was nervous and irritable and had many carious teeth. Sleep and diet requirements were discussed, and the mother promised to take the child to a dentist. The fate of the child's permanent teeth was pointed out and the mother gave a long history of her own experience with dental caries.

The next visit was a negative one; four children in the family but no one at home. This often happens in Mill Villages, many mothers work part time or full time in the mill and the children are farmed out for the day. It is not an economic question always, many are in comfortable circumstances, but the temptation to make money is great, and the custom has

the approval of the social group to which the family belongs. The field worker pushed her visiting card under the door and went on to the next home. Here a four year old girl was brought in from play for the visitor's inspection, and a discussion of the child's diet followed, in which the child took some part. Most mothers are interested in knowing what to give their children to eat—that penny candy, though popular, is unwholesome. The mother of this little girl was surprised to learn at the Conference that her child had infected tonsils. The little one had always been well, and the mother remarked that tonsils are in our throats for a purpose, and was it wise to frustrate the design of the Creator? Here indeed diplomacy was necessary. After a slight pause the worker went on to say that our environment had changed since the Creation, and many of our modern ills are the result of our changed environment.

After the noon hour it seemed better to visit the outskirts of the village and see some of the children on the farms. The first farm was occupied by a foreign family. The man worked away and the woman did all the work on the farm and cared for five children. She apologized for her appearance in her rough working clothes, and gave her attention to the worker. She asked many questions about American ways and told of her experiences in Poland and the United States. It seemed better to win the confidence of the mother and praise all that was good in and about the house and not dwell too much on the defects of the children and their surroundings. Much more time must be given to the foreign mother, as her background has been different and she is not used to the ways of her adopted land.

At the next farm house, the man of the family looked out for the children and "The Woman" worked in the Mill. His health was poor he informed the worker, though one wondered in just what form was his indisposition. The two children had no defects and were brown and healthy but very shy.

At the next farm house lived an American family, or rather families. One of the children had been taken to the family physician, and a special diet had been ordered. The other two had no troubles dietary or otherwise, and seemed to be well taken care of.

By this time the Ford had wandered over several miles of country road, and the afternoon was well advanced, not so many contacts had been made as usual but a large area had been covered and the day seemed worth while.

To reach a larger field with this health service, or follow-up work, three public health nurses from the Bureau of Child Hygiene of the State Department of Health are located repectively at Winsted, Willimantic, and Middletown.

Preventable Diseases

SMALLPOX MORE VIRULENT

Evidences multiply that smallpox has become more virulent during the last three or four years. The number of cases and deaths reported in Connecticut for each year since 1900, together with the fatality rate, or number of deaths per hundred cases, are given in the following table:

Smallpox Cases and Deaths, and Deaths per Hundred Cases, in Connecticut since 1900

Year	Cases	Deaths	Deaths per 100 Cases	Year	Cases	Deaths	Deaths per 100 Cases
1900	2	.....	.....	1913	190	1	.5
1901	74	5	6.8	1914	95	.....	.....
1902	344	14	4.1	1915	22	.....	.....
1903	254	1	.4	1916	52	.....	.....
1904	6	.....	.....	1917	423	1	.2
1905	6	.....	.....	1918	94	.....	.....
1906	75	.....	.....	1919	6	.....	.....
1907	13	.....	.....	1920	2	.....	.....
1908	6	.....	.....	1921	8	.....	.....
1909	3	.....	.....	1922	447	6	1.3
1910	.....	.....	.....	1923	52	1	1.9
1911	2	.....	.....	1924			
1912	329	.....	.....	(5 mos.)	60	5	8.3

It will be noted that the highest fatality rate for this period has occurred during the present year. This is merely another evidence that smallpox is a disease that health authorities must watch and each resident of Connecticut should protect himself and family by immunization against smallpox.

A table published in Public Health Reports for June of last year indicates a general increase in virulence of smallpox throughout the country. This table is as follows:

Smallpox Cases and Deaths, and Deaths per 100 Cases, in 275 American and Canadian Cities, 1920, 1921 and 1922

Area	Cases			Deaths			Deaths per 100 cases		
	1922	1921	1920	1922	1921	1920	1922	1921	1920
Total cities (275)*	8,709	26,977	30,328	478	301	193	5.5	1.1	0.6
In United States (246)	8,306	25,514	27,775	475	298	177	5.7	1.2	0.6
In Canada (29)	403	1,463	2,553	3	3	16	0.7	0.2	0.6
Special cities (total)	1,617	2,777	2,102	460	235	4	28.4	8.5	0.2
Tucson, Ariz.	233	45	6	46	0	0	19.7	.0	.0
Los Angeles, Calif.	78	240	292	5	0	0	6.4	.0	.0
Denver, Colo.	793	924	953	248	37	1	31.3	4.0	0.1
Bridgeport, Conn.	101	5	0	3	0	0	3.0	.0	.0
Kansas City, Kan	78	243	86	33	15	0	42.3	6.2	.0
Chicago, Ill.	96	246	154	15	4	1	15.6	1.6	0.6
Muskegon, Mich.	24	17	31	9	0	0	37.5	.0	.0
Kansas City, Mo.	136	943	514	63	160	2	46.3	17.0	0.4
Moberly, Mo.	28	63	66	11	4	0	39.3	6.3	.0
Okmulgee, Okla.	20	50	0	17	15	0	85.0	30.0	.0
Shawnee, Okla.†	30	1	0	10	0	0	33.3	.0	.0

*Total cities with complete reports for three years.

†Total for Shawnee, and for Pottawatomie County.

From this table it is to be noted that for this group of 275 cities the fatality rate deaths per 100 cases of 5.5 in 1922 was 9 times the rate of 0.6 for 1920. It is to be further noted that in 5 of the special cities listed, more than one-third of the cases of smallpox proved fatal in 1922. It appears that the increasing virulence in Connecticut is in accord with the experience of other sections of the country where the virulence of smallpox is increasing. The same experience is being undergone in England where there had been a decrease in the number of babies immunized.

Any community with a small percentage of its inhabitants protected by vaccination is particularly exposed to smallpox and should view with concern the increase in virulence in the disease shown by the foregoing figures. The school board of any community in Connecticut has power under Section 888 of the Statutes as amended by Chapter 271, Acts of 1923 to require vaccination of school children. By requiring vaccination as a general policy, the school board has power to prevent such an emergency from arising.

Failure of the school board to require vaccination does not excuse individuals for neglecting to protect themselves and their children. With the protection afforded by vaccination, smallpox is now a needless disease. No community need have it if sufficiently thorough vaccination is practised and no individual need have it if he keeps himself immune through vaccination.

HAVE YOU BEEN VACCINATED? HAS YOUR COMMUNITY PROVIDED PROTECTION FOR ITSELF THROUGH VACCINATION?

INCIDENCE OF DISEASE FOR MONTH OF MAY, 1924

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of May 1924, with the corresponding month for the years 1919, 1920, 1921, 1922 and 1923.

Certain Diseases	Average 1919-1923 for May	Mean 1919-1923 for May	1919	1920	1921	1922	1923	1924
Cerebrospinal Meningitis ..	10	10	10	9	9	10	10	4
Diphtheria	196	180	180	245	178	152	226	126
Encephalitis Epidemic (Not reportable till 1921)				8	5	6	6	4
Measles	1,025	1,035	878	1207	342	1,664	1,035	625
Poliomyelitis	1	3	0	0	1	3	1	1
Scarlet Fever	289	299	191	334	299	272	348	495
Smallpox	11	0	0	0	0	53	1	12
Typhoid Fever	24	22	29	22	45	11	12	15
Tuberculosis (pulmonary)	148	154	133	154	131	161	164	138
Whooping Cough	181	192	39	192	317	136	224	109

A comparison of the morbidity on these diseases for the two preceding months, March and April, with the May record is as follows:

	March	April	May
Cerebrospinal Meningitis	7	2	4
Diphtheria	195	154	126
Encephalitis Epidemic	6	3	4
Measles	782	632	625
Poliomyelitis	2	3	1
Scarlet Fever	806	719	495
Smallpox	29	10	12
Typhoid Fever	13	3	15
Tuberculosis (pulmonary)	125	144	139
Whooping Cough	187	107	109

Cases of other reportable diseases.

May, 1924

Chickenpox	192	Mumps	490
Conjunctivitis Infections	12	Septic Sore Throat	1
Ophthalmia Neonatorum	1	Smallpox	12
Dysentery (Amoebic)	1	Tetanus	1
Encephalitis Epidemic	4	Gonorrhoea	106
German Measles	70	Syphilis	218
Influenza	15		
Malaria	6	Total	1,129

Cases Of Occupational Diseases

Lead Poisoning	2
Occupational Dermatitis	2
Total	4

Cases of Certain Reportable Diseases

May, 1924	Population	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com. Diseases
State Total	1,502,405	15	625	495	109	126	4	1	138	14	103	1129
NEW HAVEN CO.	**451,336**	**6**	**135**	**128**	**32**	**27**			**50**	**9**	**31**	**362**
New Haven	175,827	4	55	45	5	3			32	8	16	180
Waterbury	100,291	1	3	25	6	18			7	1	5	19
Meriden (city and town)	36,014			4	9				6		4	22
Ansonia	18,798			1					2		1	11
West Haven	17,354		17	6	3	2						2
Naugatuck	16,130											
Wallingford (town and boro)	12,405	1		11		3						
Milford	12,893		3	3	8						2	2
Derby	12,279			2		1						
Hamden	9,890		5	18					2		2	89
Branford (town and boro)	6,895				1							4
Seymour	7,705											
Towns under 5,000	24,855		52	13					1		1	33
FAIRFIELD CO.	**355,984**	**5**	**127**	**71**	**42**	**40**			**22**	**1**	**24**	**167**
Bridgeport	162,491		4	35	5	22			13		15	29
Stamford (city and town)	45,157		37	16	5	7			1		1	32
Norwalk	22,292	5	1	6	6	3			2		1	4
Danbury (city and town)	21,981		7	3								7
Greenwich (town and boro)	24,674		6	6	19	1			3		2	14
Stratford	15,422			2		5			1		3	12
Fairfield	13,950			1	3				2	1		24
Shelton	10,833					1						2
Westport	5,509											
Towns under 5,000	26,675		72	2	4	1					2	43
HARTFORD CO.	**375,816**	**2**	**236**	**192**	**24**	**50**	**2**	**1**	**48**	**2**	**30**	**453**
Hartford	156,169	2	132	80	4	21			33	2	16	246
New Britain	66,370		22	54	1	12	2	1	2		4	60
Bristol (city and town)	23,918		7	10	5	2			2		2	20
Manchester	20,561		23	5	3				6		4	7
Enfield	12,629					3						13
East Hartford	13,274		8	6		3			2		1	9
Southington (town and boro)	9,331			1	1							2
West Hartford	10,729		4	11	1	2			1			37
Windsor	6,287											2
Glastonbury	5,960		6	10	2	1					1	5
Towns under 5,000	50,588		34	15	7	6			2		2	52
NEW LONDON CO.	**110,803**		**23**	**52**	**3**	**3**			**7**		**5**	**42**
Norwich (city and town)	30,303			8		1			2			26
New London	28,421		2						3		2	5
Stonington (town and boro)	10,718			21		1						5
Groton (town and boro)	10,493		16	10	3				1			1
Towns under 5,000	30,868		5	13		1			1		3	5
LITCHFIELD CO.	**79,046**	**1**	**78**	**23**	**1**						**5**	**29**
Torrington (town and boro)	24,055											1
Winchester (inc. Winsted)	9,095											1
Plymouth	6,315			14							1	
Watertown	7,016		1	3								5
Towns under 5,000	32,565	1	77	6	1						4	22
WINDHAM CO.	**54,881**		**1**	**11**	**6**				**2**		**6**	**16**
Windham (inc. Willimantic)	14,265			3								3
Putnam (city and town)	8,894			3	6				1			6
Plainfield	8,465											
Killingly (inc. Danielson)	8,905			1							2	1
Thompson	5,171			1								2
Towns under 5,000	9,181		1	3					1		4	4
MIDDLESEX CO.	**46,972**	**1**	**12**	**10**	**1**		**2**		**6**	**1**		**51**
Middletown (city and town)	22,554		7	5								38
Middletown State Hospital									3			2
Towns under 5,000	24,418	1	5	5	1		2		3	1		11
TOLLAND CO.	**27,567**		**13**	**8**		**6**			**3**	**1**	**2**	**9**
Vernon (inc. Rockville)	8,822			1		2			1			
Stafford (town and boro)	5,456		10			4			1		1	
Towns under 5,000	13,289		3	7					1	1	1	9

(For cases of other reportable diseases, see page 150)

ALCOHOL AND MENTAL DISORDERS

"Whereas it has been told me that thou has forsaken books, and devoted thyself to pleasure; that thou goest from tavern to tavern, smelling of beer, at the time of evening. If beer gets into a man it overcomes his mind . . . Thou knowest that wine is an abomination, that thou hast taken an oath that thou would'st not put liquor into thee. Hast thou forgotten thy resolution?"

According to Tuke, the above quotation was discovered in one of the oldest Egyptian papyri. With our knowledge of the physiological effect of alcohol on the central nervous system, it is not impossible to understand why, in the time of the Egyptians, "if beer got into a man it overcame his mind," nor is it difficult, knowing that our present day popular alcoholic liquors contain from 40 to 50 per cent of alcohol, to understand why alcohol is still so important an essential cause of mental disease.

Alcohol as a Poison

Alcohol is a body tissue poison and a narcotic with special affinity for nervous tissue and with the power of profoundly modifying the function of the nervous system, especially the function of the brain. In amounts of even less than one ounce, alcohol depresses the higher centers of the brain, whose function is to check the activities of the lower brain centers. If uninhibited, these lower centers would soon lead a person into serious trouble, as primitive impulses would have full sway. The higher centers allow us to judge, to discriminate, and to control our emotions, impulses and desires. As a result of the depressing effect of alcohol on these higher intellectual centers it is easy to understand the loss of judgment, memory and power of association, and the increased play of the emotions. Feelings of joy, misery, anger, excitement, etc., break forth more easily with no inhibiting influence from above; cares and worries are forgotten and a feeling of light-heartedness develops. The power of self-consciousness and self-criticism is decreased. Alcohol is a popular beverage because of this property of inducing these alterations of sensation and emotion, called euphoria, a feeling of well-being.

In larger amounts its effects are more depressing, even paralyzing. There is increased effect upon the higher centers and a progressively descending effect upon the lower centers, producing greater inco-ordination of mood, thought, and muscular

activity, and a depressing effect upon centers in the medulla, particularly the respiratory center. With sufficiently large amounts there is paralysis of all centers with coma and possible death. It has been estimated that with fourteen ounces of absolute alcohol circulating in the blood there is considerable likelihood of death. The toxic effect of alcohol is in direct proportion to the amount taken, the degree of its concentration, and the rapidity with which it is ingested. Naturally enough the stronger alcoholics such as whiskey, brandy and gin are more toxic than wines and beer. In time, tolerance is probably established—an accomplishment decidedly unfortunate as it removes the protection afforded the brain by the prompt reaction of intoxication, and so, by allowing more alcohol to be imbibed without immediate acute effects, eventually produces confirmed inebriety, psychosis, or dementia, from the long continued poisoning of brain cells.

To the physiological effect of the common ethyl or grain alcohol described above, there is in these days of illicit liquor traffic, the added danger of the presence of amylic alcohol frequently resulting from careless and ignorant distillation and insufficient aging. Another source of poisoning is the presence of methyl or wood alcohol, a deadly poison, occasionally encountered in synthetic liquor. The several cases of death and blindness reported a few years ago due to the consumption of wood alcohol contained in whiskey, should be a constant reminder of the hazard of drinking contraband liquor.

The mechanism of the development of alcohol addiction is not the same for all persons. There are a few of sound mind and body and of otherwise good habits and ideals, who begin the use of alcohol in a social way or perhaps with the idea that its use will safe-guard them from disease. Others begin its use perhaps to allay pain or banish insomnia. In some people the alcohol habit is an early indication of beginning mental disease; in others it is like the periodic explosion of the epileptic. In a large number, however, it is probably an indication of temperamental abnormalities. In this last group, with psychopathic and neurotic personalities, the endless process of adjustment and readjustment to new and difficult situations is too much of a strain to be borne in a normal way; equilibrium is being constantly upset and mental peace and contentment are not secured in the way desired. In time this type learns of the self-satisfying effects of alcohol, especially in trying situations, and eventually each new environmental difficulty is met with the assistance of alcohol. In any of these groups, the steady use of even comparatively small amounts creates a growing demand for larger amounts until there is a fairly regular consumption of considerable quantities. In all groups the end result is an unhealthy body state and a more

unhealthy mental state. By this time the entire body has become so saturated with toxic matter that a condition of unbearable nervousness arises whenever the system is allowed to get from under the narcotic influence of the drug, and no matter how cognizant the unhappy person may be of his habit nor how sincerely he may make an effort to release himself, he usually finds it impossible to do so by his own efforts.

The Alcoholic Mental Disorders

Alcohol has for many years been recognized as one of the most important of the essential causes of mental disorder. In 1910, according to the Federal Census report, of the 60,769 admissions with mental disease to hospitals throughout the country, 6,122 or 10.1 per cent suffered from some one of the alcoholic psychoses. This last number does not include cases in which alcohol was simply a predisposing or a contributing factor, but only those cases which presented the characteristic symptoms of mental disorder directly due to alcoholic poisoning and diagnosed as such. In the various census districts the frequency of alcoholic psychoses among first admissions varied over fairly wide limits, ranging from 13.9 per cent in the Mountain States to 7.3 per cent in the East South Central States. The New England States, of which Connecticut is one, are rated next to the highest with a percentage of 12.9 per cent.

Each of the alcoholic psychoses is marked by fairly characteristic symptoms. With the exception of pathological intoxication, all of them are the result of the continued use of alcohol over a fairly long period of time. It is not essential that this continued use be of large quantities, for even the daily use of such small amounts as two or three ounces of whiskey have been known to cause serious mental disturbance.

Pathological intoxication may result from the ingestion of small or large amounts of alcohol for the first time, or it may follow the consumption of alcohol over a long or short period of time, depending upon the individual susceptibility. It is occasionally encountered in those who ordinarily show so-called "normal drunkenness" as a result of their alcoholic excesses. Usually it appears suddenly and is manifested by clouding of consciousness, marked irritability or anxiety occasionally with severe episodes of rage, terrifying hallucinations, illusions, and delusions, and by serious conduct disorders such as assault or homicide. Nearly always the scene is ended by a long heavy sleep, from which the patient awakes with headache and vertigo and usually without any recollection of what has happened.

Chronic alcoholism consists in gradual deterioration, a degradation of emotional and intellectual processes. The patient becomes more and more incapable of regular, persis-

tent work and tires easily. The willpower becomes increasingly enfeebled; there is inability to initiate any positive action. The habitual drinker sinks lower and lower in the social scale. The memory suffers. The decline of intellectual power is associated with a moral degeneration. The chronic alcoholic neglects his duties and his family without fear or shame, disregards the requirements of custom and breeding and becomes indifferent to the censure and disdain with which he is treated. The alcohol obliterates all the better instincts, until finally, all sense of propriety being lost, the victim is governed soley by his desire for drink. Many are eventually housed in jails, almshouses, and state hospitals.

Delirium tremens is the simplest of all disturbances ascribed to alcohol. Here we have a group of symptoms all of which point towards an acute intoxication of the central nervous system, characterized by confusion and terrifying hallucinations and illusions (sense deceptions.) Pronounced tremor more or less affects the entire body. Insomnia is practically always present and there is usually moderate elevation of temperature.

Acute alcoholic hallucinosis occurs at the close of a spree when a patient suddenly begins to hallucinate, imagines attacks are being made upon him, and hears voices speaking in a derogatory manner. The voices are profuse and of a threatening nature, usually reflecting upon the patient's dissolute mode of life, (drunkard, thief, rascal,) etc. There is no confusion or motor restlessness and the patient appears superficially clear in mind. Tormented by voices, frequently he appeals to the police for protection, or even commits suicide. The attack may last a few days or weeks. Recovery usually follows but is often interrupted by another attack, upon the resumption of alcoholic habits.

In **the paranoid group** are probably the most troublesome of all alcoholic patients. Such individuals may be normally sociable and good tempered but after a drink or two imagine slights or insults and become dangerously quarrelsome. They are not well adapted people. Antisocial tendencies are latently strong in them. Drink brings these tendencies to the surface. Later, when drunk, delusions of jealousy or of unfaithfulness appear which may become fixed. All kinds of insignificant occurrences furnish the nutriment for the notion of jealousy until finally the patients are convinced of the infidelity of their partners. Gross maltreatment, dangerous physical injury, or murder are the resulting offenses.

Korsakoff's psychosis develops most frequently in chronic alcoholics after severe excesses in drinking. In the commencement there is present a multiple neuritis that is followed by a phase of acute delirium, or a more or less atypical delirium in the course of which symptoms of polyneuritis set in.

The initial delirious phase, however, does not pass directly from the typical sleep into recovery as in ordinary alcoholic delirium, but goes over into a chronic state. There is a very pronounced defect of memory for recent events—the patients do not know where they are, nor recognize their surroundings, and are therefore constantly making erroneous statements in regard to time, place and recent happenings. After they have been accurately instructed they will within a few minutes have forgotten all that has been told them and repeat the previous erroneous statements. Similarly everything that takes place in their presence passes by them without effect. Patients endeavor to conceal these marked defects of memory by persistent, but always different, fabrication. They recount the most adventurous experiences, most fantastically adorned. As their minds clear they are left with a peculiar memory defect in which they cannot properly register or recall current impressions. After a duration of months or years the chief symptoms fade away while a state of mental enfeeblement persists.

Decrease of Alcoholic Mental Disorders

Of the three most important essential causes of mental disorder, heredity, syphilis and alcohol, the last is the one most open to attack. This is well illustrated by statistics of the New York and Massachusetts State Hospitals which show that within the last decade there has been a marked decrease in the number of the alcoholic psychoses among first admissions to these institutions. In New York, the rate of alcoholic first admissions dropped from 10.5 per cent in 1910 to 2.8 per cent in 1921. In Massachusetts, including McLean Hospital, the rate dropped from 11.3 per cent in 1912 to 4.9 per cent in 1921. In Connecticut a corresponding drop has undoubtedly occurred but statistics are not available for satisfactory presentation at this time. However, it is significant that of the 4,873 psychotic patients in hospitals for mental disorder at the end of the year 1923, only 336, or approximately 6.8 per cent were suffering from alcoholic psychoses. This decrease, although starting before prohibition, has been more marked within the last three or four years.

It is not at all likely that prohibition restrictions alone will suffice to eradicate alcohol as a cause of mental disorder. The public as a whole must be given a more complete knowledge of the danger of alcoholism, and a large mass of the population must be brought to a saner and less antisocial viewpoint. We shall continue to find thousands of patients with alcoholic mental disorders in hospitals throughout the country, until the cause of their disorders has been removed through the cooperation of the public.

Vital Statistics

Births

April, 1924

During the month 2,448 births were reported as compared with 2,554 in 1923, a decrease of 106. The birth rate of 19.6 is the lowest which has appeared since 1919. The average number of births over the period 1919-1923 is 2,721 and from this it readily follows that 1924 is 273 below the average.

Of the 47 towns in the state having 5,000 or more population 27 reported more births during the month for 1924 than were registered in 1923 but of the 27 only three reported increases of ten or more. These three towns, showing the increased number of births, were Norwalk, 32; Waterbury, 34; Windham, 16.

During the month 89 stillbirths were reported, exactly the same number which were recorded in 1923. The combined total of living and stillbirths is 2,537 for 1924 and of this total 3.51 per cent were stillbirths. One year ago the figures were 2,643 total births, of which 3.37 per cent were stillbirths.

Deaths

There were recorded 1,500 deaths during the month, a decrease of 204 over the 1,704 reported in 1923. With the exception of the banner year 1921 this is the lowest number of deaths reported since 1919 and is a gratifying continuance of the trend toward a decreased mortality during the present year. So far the net accumulated decrease of 1924 over 1923 is 964, including the decrease noted above.

In order that a broad survey may be made to exhibit the savings effected, the table below has been prepared to enable a comparison of 1924 and 1923.

CAUSE OF DEATH	1924	1923	INCREASE	DECREASE
Diseases of the Heart	205	226	....	21
Epidemic Encephalitis	2	6	....	4
Pneumonia, undefined	2	4	....	2
Typhoid Fever	0	4	....	4
Measles	8	28	....	20
Scarlet Fever	11	5	6	....
Whooping Cough	5	17	....	12
Diphtheria	19	13	6	....
Influenza	45	57	....	12
Tuberculosis, Pulmonary	86	110	....	24
Tuberculosis, Other forms	18	12	12	....
Cancer	123	111	12	....

Cerebrospinal Meningitis	2	4	....	2
Poliomyelitis	0	0	....	....
Pneumonia, Lobar	64	100	....	36
Pneumonia, Broncho	80	118	....	38
Diarrhoea and Enteritis, Under 2	8	20	....	12
Puerperal Diseases	15	20	....	5
Accident	94	93	1	....
Suicide	19	17	2	....
Homicide	2	1	1	....
Other Causes	692	738	....	46
Totals	1,500	1,704	34	238

The tabulation above shows that there was a decrease in the number of deaths for most of the diseases analyzed. Influenza and the Pneumonias showed decreases amounting to 88 which is in line with the mortality experienced so far this year wherein there has been no inconsiderable decrease in the number of deaths from these causes. The decrease of 24 in Pulmonary Tuberculosis is noteworthy, as is the decrease of 20 for Measles. Diphtheria shows a definite tendency either to increase or to remain with the same force of mortality despite the preventive and curative resources available in combating this disease. Of the accidental deaths given above 28 were due to automobile accidents as compared with 22 a year ago. This an increase of 25 per cent, nearly.

Infant Mortality

The number of deaths of infants under 1 year of age was 164, a decrease of 102 over the 266 which were recorded in 1923. This number of deaths, 164 for 1924, is the lowest which has appeared since 1919, not excepting the extremely favorable year of 1921. The average number of deaths over the period 1919-1923 is 243 and therefore 1924 is 79 below this average. The infant mortality rate is 63.8 per 1,000 living births.

Marriages

A survey of the table exhibiting the statistics for April for the past six years will show that the number of marriages is subject to wide fluctuations; in some years, as 1919 and 1920, varying by nearly 500. The number of marriages reported this year is 903 as compared with 1,165 in 1923, a decrease of 262. However, this decrease may be lessened when all delinquent reports have been received. The list of the towns not reporting promptly will show that these figures are subject to change. This remark also applies to the statistics for births and deaths, but to a lesser degree.

Six Year Study—April, 1919-1924

CONNECTICUT	1919	1920	1921	1922	1923	1924
BIRTHS	2924	2738	2954	2433	2554	2448
Birth Rate	24.0	23.6	25.0	20.2	20.8	19.6
DEATHS	1618	1579	1416	1564	1704	1500
Death Rate	13.3	13.6	12.0	13.0	13.9	12.0
MARRIAGES	858	1318	1117	929	1165	903
Marriage Rate	7.0	11.3	9.4	7.6	9.5	7.2
COMMUNICABLE DIS.* DEATHS	292	267	203	224	238	176
Per Cent to Total Deaths	18.0	16.9	14.3	14.3	14.0	11.7
DEATHS UNDER 1 YEAR	252	244	213	238	266	164
Rate per 1000 births	88.8	85.7	75.0	91.3	104.0	63.8

*Includes: Typhoid Fever, Measles, Scarlet Fever, Whooping Cough. Diphtheria, Tuberculosis Pul., Cerebro-Spinal Men., Poliomyelitis, Influenza.

Towns from which no report has been received, April, 1924

BIRTHS

Burlington
Canaan
Colebrook
Columbia
Cornwall
East Haven
Franklin
Madison
Milford
North Canaan
Warren

MARRIAGES

Burlington
Canaan
Colebrook
Cornwall
Coventry
East Haddam
Farmington
Franklin
Madison
Milford
Plymouth
Ridgefield
Tolland
Warren
Washington

DEATHS

Colebrook
Cornwall
East Haven
Franklin
Madison
Warren
Waterford

*This bulletin goes to press the 5th of each month.

April Statistics 1924	Population Based on U S Census Est. as of July 1, 1924	TOTALS: Births	Still Births	Marriages	Deaths	DEATH RATES: All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	AGE GROUPS: Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,502,405	2448	89	903	1500	12.0	0.7	63.8	164	72	557
Ansonia	18,798	29	3	11	16	10.2	....	141.1	4	2	3
Branford	6,895	7	....	4	3	5.2	....	114.2	1	....	1
Bridgeport	162,491	279	6	90	144	10.6	0.4	33.1	9	9	40
Bristol	23,918	44	....	16	23	11.5	1.5	86.6	4	3	7
Danbury	21,981	39	2	18	23	12.6	0.5	45.4	2	....	9
Derby	12,279	37	2	4	15	14.7	....	82.4	3	1	4
East Hartford	13,274	15	1	4	8	7.2	....	176.4	2	....	4
Enfield	12.629	25	1	16	9	8.6	....	....	....	1	6
Fairfield	13,950	14	....	2	10	8.6	0.9	60.0	1	1	5
Glastonbury	5,960	2	....	4	3	6.0	....	....	....	1	....
Greenwich	24,674	36	2	42	29	14.1	....	109.8	4	2	11
Groton	10,493	13	....	4	11	12.6	1.1	74.1	1	1	8
Hamden	9,890	11	....	4	8	9.7	....	67.8	1	1	4
Hartford	156,169	297	8	131	164	12.6	0.5	49.6	16	12	44
Killingly	8,905	18	....	12	5	6.7	....	70.0	1	1	3
Manchester	20,561	34	1	15	13	7.6	1.8	....	....	....	5
Meriden	36.014	56	4	15	39	13.0	0.7	31.4	2	3	24
Middletown	22.554	35	2	7	43	22.9	....	40.2	2	3	15
Milford	12,893	....	....	....	5	4.7	....	....	....	....	2
Naugatuck	16,130	16	....	11	8	6.0	....	....	....	1	5
New Britain	66,370	123	5	29	62	11.2	0.7	65.2	9	6	20
New Haven	175,827	200	13	127	191	13.0	1.2	66.8	22	9	65
New London	28.421	55	5	21	30	12.7	0.8	47.9	3	1	12
Norwalk	29,292	67	1	21	41	16.8	....	41.0	2	1	11
Norwich	30,303	62	1	19	58	23.0	1.6	136.2	9	1	22
Plainfield	8,465	16	1	4	2	2.8	....	....	....	....	1
Plymouth	6,315	12	....	....	5	9.5	....	352.9	3	....	1
Putnam	8,894	14	....	12	10	13.5	1.3	61.2	1	....	2
Seymour	7,705	10	....	2	6	9.3	....	216.2	2	....	2
Shelton	10,833	12	....	5	14	15.5	2.2	63.5	1	1	5
Southington	9,331	10	....	4	3	3.9	1.3	61.2	1	....	1
Stafford	5,456	19	....	2	8	17.6	....	335.6	4	....	3
Stamford	45,157	87	6	41	42	11.2	0.3	78.7	7	1	15
Stonington	10,718	10	....	4	9	10.1	1.1	....	....	....	5
Stratford	15,422	25	....	7	13	10.1	0.8	55.3	1	2	5
Thompson	5,171	14	....	4	3	7.0	....	....	....	....	1
Torrington	24,055	40	1	11	28	14.0	0.5	26.7	1	2	9
Vernon	8,822	15	....	3	13	17.7	1.4	183.2	2	....	7
Wallingford	12,405	15	1	2	7	6.8	....	....	....	....	3
Waterbury	100,291	212	5	67	93	11.1	0.4	80.0	15	3	25
Watertown	7,016	5	....	5	4	6.8	....	110.1	1	....	2
West Hartford	10,729	19	4	3	21	23.5	....	204.5	3	1	6
West Haven	17,354	30	....	8	27	18.7	....	....	....	....	8
Westport	5,509	8	....	3	10	21.8	....	328.7	2	....	5
Winchester	9.095	14	....	4	11	14.5	....	273.9	5	....	3
Windham	14,265	44	....	11	18	15.1	....	33.2	1	....	10
Windsor	6,287	4	....	3	4	7.6	....	137.9	1	....	2
Towns under 5,000	212,439	199	14	71	188	10.6	0.8	60.4	15	2	106

for the month of April, 1924

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis—Pulmonary	Tuberculosis—Other Forms	Cancer	Meningitis—Cerebro-Spinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea and Enteritis under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
205	2	2	......	8	11	5	19	45	86	18	123	2	......	64	80	8	15	94	19	2	490	229
3	......	......	......	......	1	......	1	2	......	......	1	......	......	......	1	......	......	1	......	......	......	......
	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
23	1	......	......	......	......	......	1	7	6	......	11	......	......	11	9	......	2	17	3	......	54	12
4	......	......	......	......	......	......	......	......	1	2	......	......	......	2	1	......	1	1	......	......	1	1
4	......	......	......	......	1	......	......	1	1	......	......	......	......	2	1	......	1	......	......	......	6	3
1	......	......	......	......	1	......	......	1	......	1	2	......	......	1	1	......	......	1	......	......	8	7
	......	......	......	......	......	......	......	1	......	......	2	......	......	......	1	......	......	1	......	......	......	1
1	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	2	......	......	1	2
1	......	......	......	......	......	......	1	......	2	......	......	......	......	......	2	......	......	......	2	......	......	4
	......	......	......	......	1	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	2	......	......	......	1	......	2	4	......	......	......	2	1	......	2	......	......	8	4
3	......	......	......	......	......	......	......	2	1	......	1	......	......	......	......	......	......	......	......	......	......	......
3	......	......	......	......	......	......	......	......	......	......	1	......	......	2	......	......	......	......	......	......	......	......
20	......	......	......	4	3	1	1	1	6	7	12	......	......	7	9	2	......	16	1	......	91	39
	......	......	......	......	......	......	......	......	......	......	......	......	......	1	1	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	1	3	......	2	......	......	......	......	......	......	......	......	......	4	2
8	......	......	......	......	......	......	......	......	3	......	2	......	......	2	1	1	......	3	......	......	11	5
7	......	......	......	......	......	......	1	......	4	1	2	......	......	......	5	1	......	2	......	......	31	31
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......
3	......	......	......	......	......	......	1	......	......	......	1	......	......	......	......	......	......	1	......	......	......	......
5	......	......	......	......	2	1	4	1	......	1	4	......	......	1	2	......	1	4	......	1	14	1
21	1	1	......	......	......	......	......	......	11	2	21	2	......	10	11	......	2	14	2	......	90	29
6	......	......	......	......	......	......	......	1	2	......	3	......	......	2	3	......	1	......	......	......	13	8
6	......	......	......	......	1	......	......	1	......	......	4	......	......	......	1	......	1	5	1	1	10	6
7	......	......	......	......	......	......	1	5	8	......	5	......	......	1	......	......	......	3	1	......	24	8
	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
	......	......	......	......	......	......	......	......	......	......	......	......	......	......	3	......	......	1	......	......	......	......
3	......	......	......	......	......	......	......	......	......	......	2	......	......	1	......	......	......	1	......	......	2	2
1	......	......	......	......	......	......	......	1	......	......	1	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	1	......	6	......	3	......	......	......	......	......	......	......	......	......	4	4
	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	1	......	......	......	......	......	1
1	......	......	......	......	......	1	......	......	......	......	1	......	......	......	1	......	......	......	......	......	3	......
7	......	......	......	2	......	......	......	......	1	......	3	......	......	2	2	......	1	2	......	......	16	4
4	......	......	......	......	......	......	......	1	1	......	......	......	......	......	1	......	......	......	......	......	1	......
2	......	......	......	......	......	......	......	1	1	......	......	......	......	2	1	......	......	1	......	......	......	......
	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	3	1	......	3	......	......	2	1	1	......	3	......	......	7	......
5	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1	......	......	1
	......	......	......	......	......	......	1	......	......	......	1	......	......	......	1	......	......	1	......	......	......	1
3	......	......	......	......	......	1	3	6	2	......	9	......	......	2	5	1	4	6	......	......	30	8
	......	......	......	......	......	......	1	1	......	......	......	......	......	......	......	......	......	......	......	......	......	......
4	......	......	......	......	......	......	......	......	......	1	2	......	......	1	......	......	......	1	......	......	10	1
3	......	......	......	......	......	......	......	2	9	1	......	......	......	2	......	......	......	......	......	......	10	9
1	......	......	......	......	......	......	......	......	......	......	1	......	......	1	1	......	......	......	1	......	......	1
2	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1	......	......	......	......	......	3	2
1	......	......	......	......	......	......	......	1	......	......	1	......	......	......	2	......	......	......	......	......	5	1
1	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
32	......	......	......	......	1	1	......	4	16	......	17	......	......	9	9	......	......	5	7	......	33	31

Public Health Instruction

MILK FOR HEALTH

Nation wide propaganda for the use of milk has convinced the public that milk should be the first choice in the diet for children and adults. No other factor for the promotion of health has been more worthy of this publicity. Milk does promote health.

"One quart of milk daily for each child" has been the health cry for some years. No other food can so efficiently supply the calcium needs of children during the age when bones are lengthening and teeth are forming. Recent scientific research of Sherman and Hawley has shown that the "one quart of milk a day" is sound in its principle and not merely a slogan for publicity. A group of children between the ages of three and thirteen years was studied as to their calcium metabolism. After finding out the amount of calcium stored daily by normal children, an intensive study was made to determine the amount of milk which would result in the largest storage of calcium. The amounts during different periods varied from one half of a pint to one quart, the rest of the diet including "bread, butter, orange juice, oatmeal, macaroni or potato, apple sauce, corn flakes or prunes." The results of these experiments showed that the largest amount of calcium was stored on one quart of milk a day; when less than one and a half pints of milk were used, calcium storage fell below the normal needs. Furthermore, it was found that larger quantities than one quart of milk did not appreciably increase the storage.

The comparative value of milk and vegetables was also studied to determine their relative efficiency as to calcium storage. This study revealed the fact that, while vegetables were an excellent source of calcium, milk provided for a larger storage of calcium. So vegetables should be used liberally to supplement rather than to take the place of milk in the diet of children.

Aside from its high mineral content, milk is valuable for the superior quality of its proteins which furnish the elements for growth and meet the daily demands of living tissue. The addition of milk to other foods such as cereals, or breads, or vegetables enchances the value of their proteins which, alone, are of inferior quality. So even a small amount of milk is better than none since it improves the quality of the diet.

Many people do not realize how complex a food milk really is. It has so many health assets that one is reluctant to give first place to any one of these. To the dairyman, the

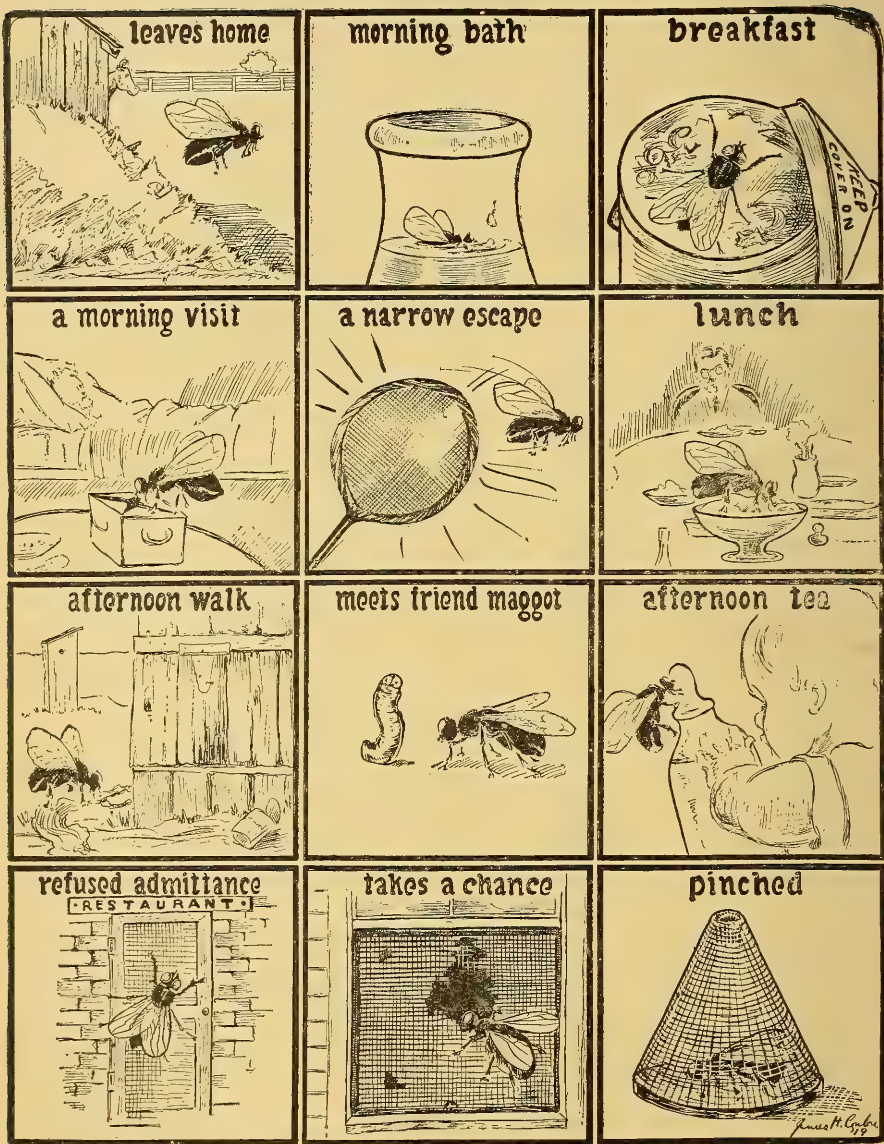
fat content has decided economic value, but to the child in the midst of rapid growth, it has a vital health significance. Nutrition research has revealed the presence in milk of accessory food substances, or vitamins, which are essential to growth. One of these, vitamin A, or fat soluble A, is associated with the fat of milk; another, vitamin B, or water soluble B, is found in the milk serum—this also is essential to growth; still a third, vitamin C, or the antiscorbutic vitamin, is present in milk. This vitamin, while not so definitely an essential of growth, is a protection against scurvy. Nutrition laboratories have shown through animal experimentation that growth is inhibited when either vitamin A or B is lacking in the diet, and that scurvy will develop when vitamin C is omitted. So milk scores on another health point—the presence of vitamins A, B and C.

Convinced of the need for milk in the daily diet, the mother is confronted with another problem. What kind of milk shall she buy? Certified milk is raw milk produced under rigid supervision. The cost of this is usually prohibitive since she is determined that each child shall have a full quart daily. From a health standpoint, pasteurized milk is her wisest choice—pasteurized milk of an initial high grade. As milk is one of the best mediums for the growth of bacteria, there is always danger that raw milk may contain disease producing organisms which entered the milk at the source. Multiplication of these bacteria during transit may provide a source of infection which may lead to serious consequences. Pasteurization—heating to 142°-145° F. for thirty minutes will kill such pathogenic bacteria and render the milk safe. At the same time the food value of the milk is not impaired. This was demonstrated by the use of pasteurized milk in certain baby stations in Washington, D. C., over a period of eighteen months. For the sake of comparison one group was also fed raw milk. At the end of this period the average net gain per day for babies on raw milk was .4030 ounces, while for pasteurized milk, the average net gain was .4077 ounces--a point in favor of pasteurization. Furthermore, pasteurization does not destroy vitamins A and B in milk, since these vitamins are not affected by heat even for longer periods than this process demands. Vitamin C, however, will be destroyed, or greatly reduced, by the heat of pasteurization. But this is easily supplied by the use of orange juice or tomato juice or raw fruit or vegetable juices. So pasteurized milk is the only safe milk—since its nutritive value is unimpaired and its loss of vitamin C is easily made good.

The rule of one scientist is a good one to follow: "No family of five should buy meat until they have bought three quarts of milk."

PREVENT FLY BREEDING PLACES

KEEP GARBAGE COVERED



MANURE BREEDS FLIES

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 38 July, 1924 No. 7

This Issue Contains

STANLEY H. OSBORN, M. D., C. P. H., Commissioner.

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HARTFORD

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CONNECTICUT
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STATE DEPARTMENT OF HEALTH

REGULATIONS FOR THE SANITATION OF WATERSHEDS THE WATER FROM WHICH IS USED AS A PUBLIC WATER SUPPLY UNFILTERED

1. That no cesspool, privy or other place for the deposit or storage of human excrement shall be located within 50 feet of the high water mark of any reservoir, stream, brook, or watercourse, flowing into any reservoir used for drinking purposes.

2. That no cesspool, privy or other place for the deposit or storage of human excrement shall be located within 250 feet of the high water mark of any watercourse or reservoir as above mentioned unless such receptacle is so constructed that no portion of the contents can escape or be washed into the stream or reservoir.

3. That no house slops, sink wastes, or other polluted water shall be discharged on the ground or into the ground within 50 feet of the high water mark of any watercourse or reservoir as above mentioned, and no house slops, sink wastes, or other polluted water shall be thrown on the ground within 250 feet of such waters.

4. That no stable, pigpen, chicken house, or other structure where the excrement of animals or fowls is allowed to accumulate, shall be located within 50 feet of the high water mark of any watercourse or reservoir as above mentioned, and no structure of this character shall be located within 250 feet of the high water mark of such waters, unless provision is made for preventing manure or other polluting materials from flowing or being washed into such waters.

5. The term high water mark as used in these regulations, applies to any depression into which water may flow at any time during the year.

Above regulations adopted by the Public Health Council of the State Department of Health at its meeting on June 20, 1924.

Effective August 1st, 1924.

CHAPTER II

Sanitary Code

Rules and Regulations Governing Camp-Ground Sanitation

Definition

No city, town, borough, institution, person, firm or corporation shall operate, maintain, or offer for use, or permit to be used, within the state of Connecticut any tract of land on which persons may camp except after full and literal compliance with the following regulations.

Water Supply

1. A water supply of sanitary quality shall be provided in ample quantity to meet all requirements of the maximum number of persons using such a tract at any time. Said water supply shall be easily obtainable from its source or from a distributing system within a distance of not more than 300 feet of any camping spot within such tract.

2. Any water found unsafe for human consumption on such tract of land shall be either eliminated or purified, or shall be kept posted with placards definitely warning persons against its use.

Disposal of Excreta

3. Fly-tight privies or water-flushed toilets with a system of sewage disposal approved by the State Department of Health shall be provided and shall be maintained in a clean and sanitary condition. Separate toilets for men and women shall be provided, one toilet seat for each 25 men, and one for each 25 women, or fraction thereof, of the maximum number of persons occupying such tract at any time. No camp within such tract shall be at a greater distance than 400 feet from both men's and women's toilet. The location of all toilets shall be plainly indicated by signs.

Disposal of Refuse

4. Supervision and equipment sufficient to prevent littering of the ground with rubbish, garbage or other refuse shall be provided and maintained. Fly-tight depositories for such material shall be provided and conspicuously located. Every camp on said tract shall be within a distance of not over 200 feet of such a depository. These depositories shall not be permitted to become foul smelling or unsightly or breeding places for flies.

No Nuisance Permitted

5. The method of final sewage or refuse disposal utilized in connection with the operation of a camp shall be such as to create no nuisance.

Management Responsible

6. The management of every public camp shall assume responsibility for maintaining in good repair all sanitary appliances on said ground and shall promptly prosecute or eject from such ground any person who wilfully or maliciously damages such appliances, or any person who in any way fails to comply with these regulations.

Failure to Comply with Regulations

7. Failure to comply with the foregoing regulations shall be deemed sufficient cause for declaring the premises a nuisance under the provisions of the law.

Regulations to be Posted

8. These regulations shall be printed and kept posted in a conspicuous place in any such camp by the management of such ground.

Approved and adopted as a part of the Sanitary Code of Connecticut by the Public Health Council of the State Department of Health at its meeting on Friday, June 20, 1924; such regulations to take effect August 1st, 1924.

LABORATORY MOVES

New address is:

Connecticut State Department of Health

Bureau of Laboratories,

P. O. Box 1001

Hartford, Conn.

247 Pearl Street **Tel. 2-5722**

INFANT MORTALITY IN CONNECTICUT Comparison of First Quarter for 1924-1923

		Under 1 Day	1-2 Days	2-3 Days	3 Days to 1 Week	Total Under 1 Week	1-2 Weeks	2-3 Weeks	3 Weeks to 1 Month	Total Under 1 Month	1-2 Months	2-3 Months	3-6 Months	Total Under 6 Months	6-9 Months	9-12 Months	Total Under 1 Year
Totals	1924	119	49	26	51	245	45	38	25	353	50	45	97	545	71	52	668
	1923	102	44	31	67	244	52	34	34	364	57	42	104	567	90	51	708
Measles	1924	—	—	—	—	—	—	—	—	—	—	1	—	1	4	5	10
	1923	—	—	—	—	—	—	—	—	—	—	1	4	5	10	6	21
Scarlet Fever	1924	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
	1923	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0
Whooping Cough	1924	—	—	—	—	—	—	—	—	—	1	2	2	5	5	3	13
	1923	—	—	—	—	—	—	—	2	2	1	1	7	11	5	9	25
Diphtheria	1924	—	—	—	—	—	—	—	—	—	—	—	1	1	1	2	4
	1923	—	—	—	—	—	—	—	—	—	—	—	—	—	2	3	5
Influenza	1924	—	—	—	—	—	1	2	1	4	—	1	6	11	2	3	16
	1923	—	—	—	2	2	—	2	—	4	10	5	11	30	16	8	54
Erysipelas	1924	—	—	—	—	—	1	1	—	2	—	—	—	2	—	—	2
	1923	—	—	—	—	—	—	1	—	1	—	—	—	1	1	—	2
Tetanus	1924	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0
	1923	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Tuberculosis	1924	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0
	1923	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1
Tubercular Meningitis	1924	—	—	—	—	—	—	—	—	—	1	—	3	4	2	1	7
	1923	—	—	—	—	—	—	—	—	—	—	—	1	1	—	2	3
Disseminated Tuberculosis	1924	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0
	1923	—	—	—	—	—	—	—	—	—	—	—	1	1	1	—	2
Syphilis	1924	—	1	—	—	1	—	1	—	2	—	1	—	3	—	1	4
	1923	—	—	—	—	—	—	—	—	—	1	2	1	4	1	—	5
Simple Meningitis	1924	—	1	—	—	1	—	—	1	2	—	—	3	5	—	1	6
	1923	—	—	—	—	—	—	—	1	1	—	—	2	3	—	—	3

Cause	Year	Under 1 Day	1-2 Days	2-3 Days	3 Days to 1 Week	Total Under 1 Week	1-2 Weeks	2-3 Weeks	3 Weeks to 1 Month	Total Under 1 Month	1-2 Months	2-3 Months	3-6 Months	Total Under 6 Months	6-9 Months	9-12 Months	Total Under 1 Year
Cerebrospinal Meningitis	1924	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0
	1923	—	—	—	—	—	—	—	—	—	—	1	1	2	—	—	2
Convulsions	1924	1	—	—	1	2	—	1	—	3	2	—	2	7	—	—	7
	1923	—	—	—	1	1	—	—	—	—	—	1	1	3	—	—	3
Organic Heart Disease	1924	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0
	1923	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1
Acute Bronchitis	1924	—	—	—	—	—	—	3	1	4	2	1	4	11	2	2	15
	1923	—	—	—	—	—	1	4	2	7	4	3	4	18	1	—	19
Broncho Pneumonia	1924	—	—	—	1	1	2	3	6	12	15	11	25	63	29	21	113
	1923	—	—	—	1	1	2	4	3	10	18	12	28	68	33	10	111
Lobar Pneumonia	1924	—	—	—	1	1	1	2	2	6	5	5	15	31	9	4	44
	1923	—	—	—	1	1	1	2	—	4	4	2	11	21	8	6	35
Diseases of Stomach	1924	—	—	—	1	1	—	—	1	2	—	—	1	3	—	2	5
	1923	—	—	—	—	—	—	—	2	2	—	1	3	6	—	—	6
Diarrhoea and Enteritis	1924	—	—	—	1	1	—	4	2	7	7	7	14	35	5	4	44
	1923	—	—	—	—	—	3	4	3	10	5	3	7	25	3	2	30
Malformation	1924	8	6	3	5	22	7	3	4	36	3	1	2	42	2	1	45
	1923	5	3	4	12	24	4	3	1	32	3	1	2	38	—	—	38
Congenital Debility	1924	3	—	2	7	12	2	5	6	25	9	6	8	48	5	—	53
	1923	1	1	2	12	16	11	2	7	36	1	4	6	47	2	1	50
Premature Birth	1924	78	28	8	16	130	19	6	—	155	2	2	1	160	—	—	160
	1923	65	25	15	17	122	16	9	6	153	1	—	1	155	—	—	155
Injury at Birth	1924	23	7	2	7	39	3	1	—	43	—	—	—	—	—	—	43
	1923	18	10	5	7	40	2	—	—	42	—	—	—	42	—	—	42
Early Infancy	1924	4	3	7	8	22	2	2	—	26	—	—	—	26	—	—	26
	1923	8	4	3	7	22	9	—	2	33	—	—	1	34	—	—	34
All other	1924	2	3	4	3	12	7	4	1	24	3	7	10	44	4	2	50
	1923	5	1	2	7	15	3	3	5	26	9	5	10	50	6	4	60

Vital Statistics

INFANT MORTALITY

First Quarter year, 1924 and 1923

During the first quarter of 1924 there were reported 668 deaths of infants under one year of age, a decrease of 40 over the 708 reported in 1923. Elsewhere will be found a table setting forth the age grouping for certain diseases. Reference to this table will show that there was no improvement in infant deaths occurring in the first week of life, as the figures are practically identical for the two years. There was an improvement in the numbers dying in the first month of life, the difference being 11, the actual figures, 353 for 1924 and 364 for 1923. In 1924, 545 died in the first 6 months of life as compared with 567 for 1923, a decrease of 22.

Age	Percentage of Deaths 1924	1923
Under 1 week	37%	34%
Under 1 month	53%	51%
Under 6 months	82%	80%

These percentages show that notwithstanding the reduced number of deaths there was, nevertheless, a slight tendency toward mortality in the earlier age groups. And the table shows that there was an increase in the number of deaths due to premature births, which, as usual, took its heaviest toll in the first few days of life. In 1924 premature births will account for 24 per cent of the total deaths while in 1923 this cause contributed 22 per cent. In 1924 there was also an increase in the number of deaths due to broncho pneumonia, the figures being 113 for 1924 and 111 for 1923. The percentage figures of the total deaths are 1924, 17 per cent; 1923, 16 per cent. The largest reduction appears for influenza which in 1924 accounted for 16 deaths and in 1923 was responsible for 54, a decrease of 38. There were also encouraging decreases in measles and whooping cough.

If we combine malformation, congenital debility, premature birth and injury at birth for 1924 we will discover that 301 deaths were due to these causes, or 45 per cent of the total deaths. In 1923 the figures were 285 deaths and 40 per cent of the total. These results show that there is much still to be done in prenatal work.

MONTH OF MAY, 1924

Births

During the month of May 2,604 births were reported, a decrease of 60 over the 2,664 reported in the corresponding month of 1923. It is of interest to note that the births since 1922 have been constantly very near 2,600 for each year, the greatest deviation from this figure being only 64, while for the years 1919-1921 the average was very nearly 2,900, but with an extreme deviation among the figures averaged of 101. Grouping the last six years, including 1924, it will be observed that in the three years 1919—1921 the births averaged 2,900, with rather constant grouping about this figure—that is to say, with no huge deviation. In 1922 there was an abrupt drop from the average of the previous three years of 2,900 to 2,600 and from 1922 to 1924 inclusive the average has been 2,623 and with a very decided tendency for grouping about this average. Naturally, with the number of births remaining constant the birth rate will from year to year decrease, owing to the increase in population. And the rate for the year 1924 is the lowest which has appeared in the last six years.

Of the 47 towns having 5,000 or more inhabitants 19 reported more births in 1924 than in 1923. Of these 19 only 5 reported an increase of 10 or more. These 5 towns were the following and the numbers after them give the actual increases: Bristol, 12; Greenwich, 19; Norwalk, 23; Norwich, 12; Waterbury, 47.

There were reported 90 stillbirths, a decrease of 5 over the 95 reported in 1923. The total number of living and stillbirths for 1924 was, therefore, 2,694, and the 90 stillbirths constitute 3.34 per cent of this total. In 1923 the combined total of living and stillbirths was 2,759, and the 95 stillbirths constitute 3.44 per cent of this total.

Deaths

There were registered 1,317 deaths during the month which is the lowest number of deaths to be reported for the last six years, not excluding the extremely favorable year of 1921. As 1,472 were reported in 1923, it is evident that 1924 has produced a decrease of 155 over these figures. Up to and including April the accumulated decrease of 1924 over 1923 was 964 deaths and adding to this the decrease of 155 for May it is apparent that there have been 1,119 fewer deaths in 1924 compared with 1923. This is extremely encouraging and gives promise that 1924 may prove to be an even more favorable year than 1921. This will be true if at the end of the year the reported deaths are 1,000 less than those registered in 1923. In fact the crude death rate will then be under 11 per 1,000 population.

In order that some comparison may be made between 1924 and 1923 with respect to certain diseases, the following table has been compiled to exhibit increases and decreases.

CAUSE OF DEATH	1924	1923	INCREASE	DECREASE
Diseases of the Heart	191	195	....	4
Epidemic Encephalitis	2	5	....	3
Pneumonia, Undefined	5	5	....	....
Typhoid Fever	3	2	1	....
Measles	4	18	....	14
Scarlet Fever	9	3	6	....
Whooping Cough	7	15	....	8
Diphtheria	7	19	....	12
Influenza	18	24	....	6
Tuberculosis, Pulmonary	99	107	....	8
Tuberculosis, Other forms	12	25	....	13
Cancer	120	138	....	18
Cerebrospinal Meningitis	1	6	....	5
Poliomyelitis	1	0	1	....
Pneumonia, Lobar	50	60	....	10
Pneumonia, Broncho	62	66	....	4
Diarrhoea and Enteritis, Under 2	17	23	....	6
Puerperal Diseases	13	14	....	1
Accident	82	78	4	....
Suicide	17	18	....	1
Homicide	5	8	....	3
Other Causes	592	643	....	51
Totals	1,317	1,472	12	167

In the previous months most encouraging decreases have appeared for influenza and the pneumonias. It will be observed above, that while there was experienced a general decrease, still it was not so marked as for the earlier months of the year. This is quite natural, inasmuch as we have now arrived at the season of the year when these diseases may be expected to decline. The largest decrease is for cancer, followed in order by measles, tuberculosis (other than pulmonary,) diphtheria, and lobar pneumonia. Of the accidental deaths, 17, or about 20 per cent, were due to automobile accidents. In 1923, for May, 18 deaths resulted from such accidents.

Infant Mortality

Of the total deaths reported, 170 were deaths of infants under 1 year of age. This is an increase of 1 over 1923. The infant mortality rate is 66.0 per 1,000 living births for 1924 and 66.1 for 1923. The rate for 1924 is the lowest rate which has appeared since 1919.

Marriages

The marriages number 899, a decrease of 21 under the 920 reported in 1923. The average number of marriages for the five years 1919-1923 is 953 and from this it appears that 1924 is 54 below the average.

Six Year Study—May, 1919-1924

CONNECTICUT	1919	1920	1921	1922	1923	1924
BIRTHS	2851	2952	2897	2600	2664	2604
Birth Rate	23.4	25.4	24.5	21.5	21.7	20.8
DEATHS	1449	1522	1352	1457	1472	1317
Death Rate	11.9	13.1	11.4	12.1	12.0	10.5
MARRIAGES	957	1084	907	898	920	899
Marriage Rate	7.8	9.3	7.7	7.4	7.5	7.2
COMMUNICABLE DIS.* DEATHS	230	246	162	182	194	149
Per Cent to Total Deaths	15.9	16.2	12.0	12.5	13.2	11.3
DEATHS UNDER 1 YEAR	201	243	200	191	169	170
Rate per 1000 births	70.8	85.3	70.4	73.3	66.1	66.0

*Includes: Typhoid Fever, Measles, Scarlet Fever, Whooping Cough. Diphtheria, Tuberculosis Pul., Cerebro-Spinal Men., Poliomyelitis, Influenza.

Towns from which no report has been received, May, 1924*

BIRTHS

Bethel
Cornwall
East Haddam
Franklin
Milford
Old Lyme
Orange
Redding
Simsbury
Warren

MARRIAGES

Bethel
Cornwall
Franklin
Haddam
Milford
North Branford
Redding
Warren
Wilton

DEATHS

Cornwall
Franklin
Milford
Redding
Warren

*This bulletin goes to press the 5th of each month.

Births, Marriages and Deaths

June Statistics 1924	Population Based on U S Census Est. as of July 1, 1924	TOTALS: Births	Still Births	Marriages	Deaths	DEATH RATES: All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	AGE GROUPS: Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,502,405	2604	90	899	1317	10.5	0.8	66.0	170	63	440
Ansonia	18,798	14	1	9	11	7.0	1.3	....	....	....	4
Branford	6,895	10	1	3	9	15.7	....	114.2	1	....	5
Bridgeport	162,491	253	10	85	124	9.2	0.6	51.4	14	4	36
Bristol	23,918	58	1	20	21	10.5	1.0	129.9	6	3	7
Danbury	21,981	50	2	16	30	16.4	....	113.2	5	....	11
Derby	12,279	38	1	7	14	13.7	1.0	....	....	2	3
East Hartford	13,274	10	1	5	10	9.0	....	88.2	1	....	4
Enfield	12,629	26	1	12	8	7.6	1.9	40.5	1	2	2
Fairfield	13,950	16	1	5	4	3.4	1.7	57.9	1	....	....
Glastonbury	5,960	8	....	7	6	12.1	....	142.8	1	....	4
Greenwich	24,674	47	1	37	18	8.8	0.5	....	....	....	7
Groton	10,493	14	....	10	7	8.0	2.3	....	....	....	5
Hamden	9,890	20	1	1	8	9.7	1.2	67.8	1	....	3
Hartford	156,169	323	13	126	146	11.2	0.7	71.3	23	12	45
Killingly	8,905	19	....	4	10	13.5	1.3	137.9	2	....	4
Manchester	20,561	36	4	11	16	9.3	0.6	29.3	1	....	4
Meriden	36,014	64	3	20	36	12.0	0.7	62.7	4	2	9
Middletown	22,554	40	2	8	34	18.1	....	100.3	5	....	13
Milford	12,893	....	....	....	....	....	....	....	....	....	....
Naugatuck	16,130	10	....	9	8	6.0	....	65.6	1	1	2
New Britain	66,370	157	5	44	50	9.0	0.7	65.1	9	10	12
New Haven	175,827	342	6	120	159	10.9	0.8	63.7	21	5	45
New London	28,421	55	1	16	33	13.9	....	47.8	3	1	11
Norwalk	29,292	66	1	20	18	7.4	0.4	61.4	3	....	7
Norwich	30,303	70	5	25	41	16.2	2.0	60.5	4	....	16
Plainfield	8,465	11	2	8	6	8.5	1.4	....	....	....	3
Plymouth	6,315	8	....	5	2	3.8	....	....	....	....	2
Putnam	8,894	14	....	10	9	12.1	....	....	....	....	3
Seymour	7,705	4	1	8	6	9.3	....	....	....	....	1
Shelton	10,833	14	....	3	13	14.4	1.1	....	....	....	4
Southington	9,331	23	....	2	6	7.7	2.6	....	....	1	3
Stafford	5,456	17	1	3	5	11.0	....	83.9	1	1	1
Stamford	45,157	94	4	24	36	9.6	0.5	....	....	1	14
Stonington	10,718	16	2	8	14	15.7	....	145.4	2	1	6
Stratford	15,422	21	....	5	13	10.1	1.6	110.6	2	1	3
Thompson	5,171	9	....	2	4	9.3	2.3	....	....	....	3
Torrington	24,055	41	1	15	16	8.0	....	53.3	2	1	5
Vernon	8,822	14	....	6	10	13.6	1.4	274.8	3	1	3
Wallingford	12,405	11	....	6	10	9.7	1.9	....	....	....	7
Waterbury	100,291	224	6	48	80	9.6	0.6	85.4	16	4	18
Watertown	7,016	5	....	3	4	6.8	....	....	....	....	1
West Hartford	10,729	19	1	3	23	25.7	1.1	477.3	7	2	9
West Haven	17,354	24	1	6	26	18.0	....	96.8	3	....	8
Westport	5,509	4	....	3	4	8.7	2.2	....	....	....	2
Winchester	9,905	14	....	7	7	9.2	....	54.8	1	1	1
Windham	14,265	15	2	9	13	10.9	0.8	33.2	1	1	5
Windsor	6,287	6	2	2	4	7.6	1.9	....	....	1	1
Towns under 5,000	212,439	250	6	93	185	10.5	0.6	100.7	25	5	78

for the month of June, 1924

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis—Pulmonary	Tuberculosis—Other Forms	Cancer	Meningitis—Cerebro-Spinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea and Enteritis under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
191	2	5	3	4	9	7	7	18	99	12	120	1	1	50	62	17	13	82	17	5	418	195
1	......	......	......	......	......	......	......	......	1	......	3	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	1
15	1	......	......	......	1	2	2	2	6	......	11	......	......	7	7	......	1	4	2	......	47	10
2	......	......	......	......	......	......	1	......	......	......	......	......	......	2	2	1	......	......	1	......	2	2
1	......	......	......	1	......	......	......	......	1	......	3	......	......	1	......	......	1	5	......	......	12	10
1	......	......	......	......	......	......	......	......	1	......	......	......	......	3	......	......	1	2	......	......	7	4
5	......	......	......	......	1	......	......	......	......	......	1	......	......	......	......	1	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	2	......	......	......	......	1	3	......	......	......	......	......	......	......
......	......	1	......	......	......	......	......	......	1	......	......	......	......	......	1	......	......	1	......	......	......	......
3	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1	......	......	......	......	......	......	......
3	......	1	......	......	......	......	......	......	1	......	2	......	......	......	......	......	......	......	......	......	4	2
1	......	......	......	......	......	......	......	......	1	......	......	......	......	......	1	......	......	......	1	......	2	1
3	......	......	......	......	......	......	......	......	1	......	1	......	......	......	......	......	......	......	......	......	......	......
19	1	......	......	2	2	......	......	1	7	1	13	......	......	6	13	2	......	13	3	......	85	37
......	......	......	......	......	......	......	......	......	1	......	1	......	......	1	......	1	2	......	......	......	1	......
4	......	......	......	......	......	......	......	......	1	......	3	......	......	1	......	......	......	1	......	......	8	2
7	......	......	......	......	......	......	......	......	2	......	2	......	......	2	3	......	1	3	......	......	14	2
3	......	......	......	......	......	......	......	......	2	......	1	......	......	......	2	......	1	2	2	......	22	16
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	1	......	......	......	......	1	......	......	......	2	......	......	......	......	......	......	......	......
5	......	......	......	......	1	1	2	......	4	......	2	1	1	1	......	2	1	4	2	......	7	5
21	......	......	3	......	......	......	......	3	9	1	22	......	......	5	8	1	2	8	2	3	71	20
5	......	1	......	......	......	......	......	......	......	......	3	......	......	1	1	......	......	7	......	1	11	5
3	......	1	......	......	......	......	......	......	2	......	2	......	......	1	......	......	......	2	......	......	4	1
9	......	......	......	......	......	......	......	......	9	......	1	......	......	......	......	......	1	5	......	......	13	5
......	......	......	......	......	......	......	......	......	1	......	3	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1	......	......	......	......	......	3	1
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	2	......	......	......	2
1	......	......	......	......	......	......	......	......	10	......	......	......	......	......	......	......	......	......	......	......	10	9
1	......	......	......	......	......	......	......	......	1	......	1	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	1	......	......	......	......
6	......	......	......	......	1	......	......	1	1	1	2	......	......	......	......	......	1	2	......	......	18	4
2	......	......	......	......	......	......	1	......	......	......	2	......	......	1	2	......	......	......	......	1	......	......
2	......	......	......	......	......	......	......	......	1	......	2	......	......	......	3	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	1	......	1	......	......	......	......	......	......	1	......	......	......	......
2	......	......	......	......	......	......	......	3	......	......	3	......	......	2	......	......	......	......	......	......	2	......
2	......	......	......	......	......	1	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......	......
3	......	......	......	......	......	......	......	......	1	......	1	......	......	......	......	......	......	......	......	......	......	1
6	......	......	......	......	1	1	1	2	4	1	5	......	......	3	3	......	1	4	......	......	25	5
1	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......
4	......	......	......	......	......	......	......	......	1	1	2	......	......	1	1	6	......	......	......	......	11	......
4	......	......	......	......	......	......	......	1	11	1	......	......	......	......	2	......	......	......	......	......	12	13
1	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	2	2
1	......	......	......	......	......	1	......	......	......	2	......	......	......	......	......	......	......	......	......	......	3	2
2	......	......	......	......	......	......	......	......	1	......	1	......	......	......	1	......	......	1	......	......	3	1
......	......	......	......	......	......	......	......	1	1	......	......	......	......	......	......	......	......	1	......	......	......	1
32	......	1	......	1	1	1	......	3	13	3	21	......	......	8	6	3	......	13	4	......	19	29

Laboratories

HOW THE LABORATORY TESTS WATER

When you stop at that sparkling stream to quench your thirst you are so refreshed by the cool, clear water that you fail to question the source of that water and the possibility that it may be contaminated. Yet its clarity is no indication of its purity, and one should hesitate to drink water from strange springs or streams. As proof of this may be cited an example of a famous spring that cropped out on a large estate in the center of a thriving city. It was spring water, clear as crystal and judged as pure by the thousands who stopped to refresh themselves each day. One day it was brought to the attention of the health officer who had the water examined. To the surprise of all it was found grossly polluted. The health officer ordered it closed to the public until it could be made safe, which meant protection from surface drainage at the point of outcropping.

There may be many such instances of streams or wells which give no apparent indication of pollution, yet, nevertheless, are unsafe for drinking water. To be on the safe side water should receive a laboratory examination. The routine for this followed at the Connecticut State Department of Health Laboratory is representative of what a thorough water examination consists of.

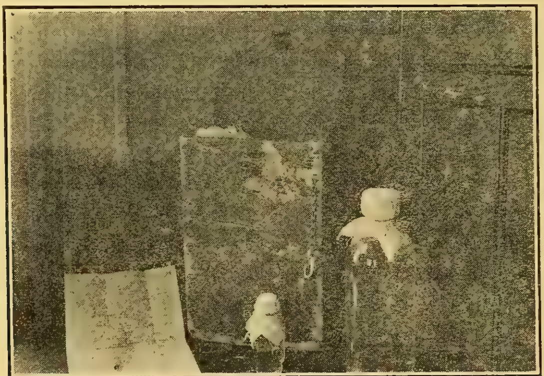


Figure 1. Water Samples for Examination.

The samples of water are received as shown in Figure 1, the two liter bottle for the chemical examination, and the four ounce bottle for the bacteriological examination. A special form accompanies the water samples, giving detailed informa-

tion as to the source. This is shown in Figure 1. On this form are printed explicit directions for the collecting and shipping of water samples as the accuracy of the bacteriological examination is determined by the careful handling before it reaches the Laboratory.

Direction for Taking Samples.

"Fill the large bottle directly from the faucet or pump after letting the water flow long enough (ten minutes or more) to remove dust and to draw off water standing in the local laterals.

A sample from a stream or reservoir should be taken well out from the shore and at about mid-depth in order to avoid surface scum and bottom mud.

The bottle should be rinsed well and then filled nearly full leaving only a small space for possible expansion. Tie the cloth firmly over the stopper and pack the bottle carefully in the sample case.

The small sterilized bottle only is used for water for bacteriological examination. Fill the bottle, without rinsing but otherwise observing the above precautions and taking care to avoid contamination of the stopper or neck of the bottle in handling. Replace the stopper as quickly as possible and tie the cloth down firmly."

It further states that the inner zinc compartment must be filled with ice and the sample sent immediately by the quickest method as "water in storage is liable to rapid changes."

When the samples are received at the Laboratory the temperature is recorded as indicated by the water in the large bottle. The small bottle of water is thoroughly shaken, at least twenty-five times, to distribute the bacteria evenly. 1 c. c. is then withdrawn with a sterile pipette and plated in duplicate plates. Plates are also made with .1 c. c.

In plating a water from an unknown source, or one that is known to be highly polluted, greater dilutions are often necessary. These are made by adding 1 c. c. of the sample to 9, or 99 c. c., of sterile water and shaking vigorously before a second dilution is made from it, or before samples are removed for plating which is always done in duplicate.

Figure 2. Water Samples Plated Out for Bacteriological Examination.

Ten c. c. of liquified medium is then added to the sample of water in the petri dish. The dish is gently rotated to thoroughly mix the medium with the sample and to spread it uniformly over the bottom of the petri dish. This is set aside until the agar becomes solid. The plates are then inverted and incubated in a dark, well-ventilated incubator at 37° C. for 24 hours. At the end of this time the plates are examined and the bacteria counted, as described in the June Bulletin for total bacterial count on the milk samples.

At the same time the water is examined for the presence of B. coli, this being an indication of contamination. The initial step in this test is also shown in Figure 2.

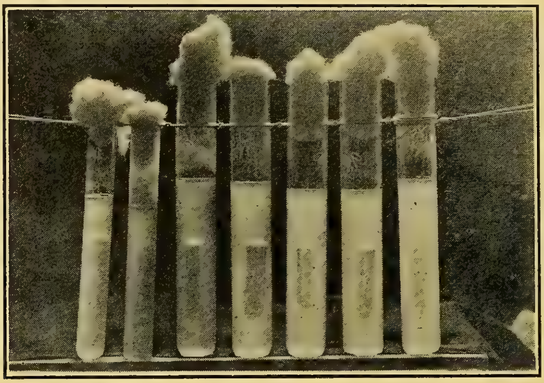


Figure 3. Gas Formation in Lactose Broth Fermetation Tubes.

To make this test, fermentation tubes are used. A small vial is inserted in each tube which is filled with lactose broth, a sugar solution. This broth completely fills the inverted vial. If B. coli are present in the water sample they ferment the sugar solution with the production of acid and gas. The gas so formed rises in the small vial and replaces the lactose broth. The per cent of gas present in this vial can then be measured by means of a chart. Water samples for this test are used in .1 c. c., 1 c. c. and 10 c. c. amounts. The fermentation tubes are incubated at 37° C. for 24 hours. They are then examined and the percentage of gas in each tube is measured. This is well illustrated in Figure 3. Gas to the extent of ten per cent or more, is a presumptive test for the presence of members of the B. coli group. This has a greater significance when it occurs in the tubes containing the smallest samples of water. The presence of B. coli must now be confirmed. This is done by using the tube in which gas has formed with the smallest amount of water. With a sterile platinum needle coiled flat at the end, a loopful of the liquid in the top of the tube, after it has been thoroughly shaken, is withdrawn and

streaked on the surface of an "Endo" plate. This is a petri dish containing a special agar medium on which colonies of B. coli appear red, and glisten with a metallic lustre, after incubation at 37° C. for 24 hours.

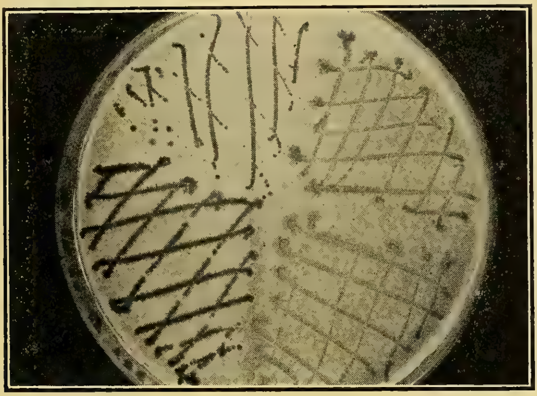


Figure 4. Endo Plate Showing Colonies of Bacillus coli.

An Endo plate is shown in Figure 4. This is examined with a hand lens and when a typical colony of B. coli is seen it is "fished" with a sterile needle and planted into a second sterile fermentation tube. Two such colonies are fished from the Endo plate in each case and the tubes are incubated at 37° C. for 24 hours, after which they are examined for gas formation. Ten, or more, per cent of gas at this time practically confirms the test for B. coli. But to make assurance doubly sure, fishings from the same two colonies on the Endo plate which were planted in the fermentation tubes, are at the same time streaked on agar slants. This "agar slant" is a tube of plain agar which has solidified on a slant to form one flat surface. Across this surface is lightly drawn the needle carrying the B. coli colony. This tube is incubated for 24 hours at 37° C. and from the surface growth a smear is made on a glass slide. This is stained by the special"gram" method and examined under the microscope. The gram method has been devised to distinguish between certain bacteria. Those that appear stained blue are known as "gram positive" while the colorless ones are "gram negative." B. coli are gram negative. Examination under the microscope will also show whether there are spores in this organism. If the organism present is a spore bearing one, the B. coli group is ruled out on confirmatory test, regardless of the presence of gas formation, as B. coli do not form spores. So the presence of B. coli in a sample of water is determined by means of these delicate tests, presence of gas initially in fermentation tube, acid colonies on

endo medium, ten per cent or more gas in lactose broth fermentation tube a second time and a gram negative non-spore bearing bacillus as shown in the smear on the glass slide. To interpret the results these points must be considered as they distinguish the B. coli group from all other organisms which might be present in water.

The chemical analysis of water furnishes another source of information as to its purity, because it reveals the previous history of a water, whereas the bacteriological results tell us the condition of the water only at the time the sample was taken. The chemical analysis shows the products of living matter, such as the various forms of nitrogen, which are, or have been in the water. There is what is known as nitrogen cycle. Albuminoid ammonia is the first step in this cycle and free ammonia the next. After free ammonia comes nitrites and then nitrates. The tests for all four of these forms of nitrogen are important in water examination.

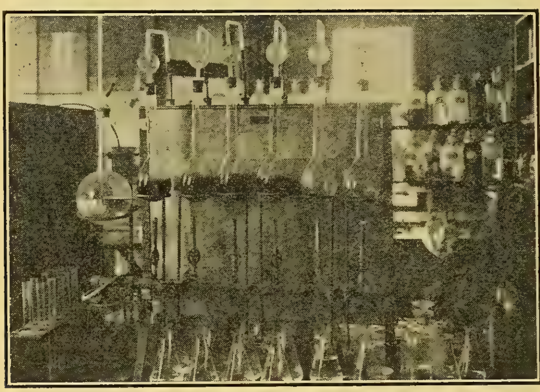


Figure 5. Ammonia Still for Water Examination.

The apparatus for testing for free and albuminoid ammonia in water is shown in Figure 5. Into a "Kjeldahl" flask is put 500 c. c. of the water and 100 c. c. is distilled off. Into a Nessler tube is put 50 c. c. of this together with 2 c. c. "Nessler's solution, which, with ammonia gives a yellow color, the depth of which depends upon the amount of ammonia present. This is the test for the free ammonia. To the remainder of the sample in the Kjeldahl flask is added 40 c. c. permanganate solution. This is for the albuminoid ammonia test. 250 c. c. of the sample are distilled off and a portion of this is nesslerized as described above for free ammonia.

The two tubes, one containing free ammonia and one albuminoid ammonia, are now compared with permanent standards which have been made in parts per million ammonia ranging from .1 to 4.5. This "ammonia standards' camera" is

shown at the right of Figure 6. The worker is seen reading the two tests by matching the colors with standard tubes whose known strength give a measure of the free and albuminoid ammonia content of the sample.

Figure 6. Colormetric Test for Albuminoid and Free Ammonia.

Nitrites and nitrates are also determined by colorometric methods. Nitrites indicate the addition of recent nitrogenous matter to the water. As a rule high nitrates indicate that nitrogenous matter have gained entrance to a water some time in the past. The significance of all four of these forms of nitrogen is not complete evidence unless considered in conjunction with the other constituents, and in reference to the nature of the source of the water.

Figure 7. Evaporating Water to Determine Chlorine Content

The other feature of the chemical analysis having a bearing on the sanitary quality of the water is the test for chlorine in chlorides. The amount of chlorine in the water is determined

by evaporating 250 c. c. of the sample to 50 c. c. This is illustrated in Figure 7. The reduced sample is then poured into a small porcelain evaporating dish, 2 c. c. of potassium chromate is added for an indicator, and this is titrated against silver nitrate solution. The amount of silver nitrate used is shown by the appearance of a red color, silver chromate, which indicates that the chlorine has all united with the silver nitrate. From the known strength of the silver nitrate solution it is possible to calculate the chlorine content which is expressed in parts per million. This is shown in Figure 8.

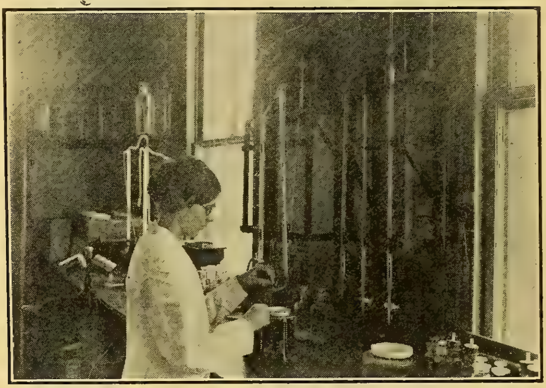


Figure 8. Titration for Quantitative Chlorine Test.

Chlorine in chlorides is a constant constituent of sewage, and if sewage has access to a water, it will be indicated by the amount of chlorine present in the water above the amount present in the unpolluted water of the same region.

While the test for hardness has no bearing on the sanitary quality of water, it does determine the suitability of water for general domestic purposes; a hard water, or one containing certain minerals in large quantity being undesirable.

To determine the total solids in water 100 c. c. of the sample are put in a platinum dish which has been previously heated, allowed to cool, weighed, and evaporated to dryness over a water bath as shown in Figure 9. This dish is then allowed to cool in a dessicator which absorbs any excess moisture. It is then weighed on an analytical balance to the fourth decimal. The difference between the initial weight of the dish and the weight now obtained records the total solids in the water. The dish is now heated over a bunsen burner to low redness to burn off the carbonaceous matter. It is then cooled in the dessicator and reweighed. The loss in weight represents the volatile carbonaceous matter and what remains is the mineral matter.

Figure 9. Evaporating Water to Determine Total Solids

The results of the various tests are recorded on a special form and sent one to the one who submitted the sample, one to the State Department of Health, and one is filed at the laboratory. When completed they are interpreted according to the findings.

The presence of B. coli in the tubes containing the smaller amounts of water .1 c. c., or 1 c. c., indicates pollution since it is the number of B. coli, and not their mere presence to which this is due. While B. coli, themselves do not represent pathological danger, disease germs are often associated with B. coli, so the presence of the latter is a criterion of danger, and indicates an unsafe drinking water. An excess of chlorine suggests pollution with household, or animal wastes. Free nitrites and nitrates represent nitrogen which may have been oxidized from fecal matter thus indicating pollution. All of these have sanitary significance in judging the quality of water. Judgment upon the results of a water analysis depends also to a large extent upon the class to which the water belongs and on the location from whence it came and on a knowledge of the opportunities for its pollution. Hence the importance of filling out the blank which is sent with each shipping case at the time of collection of the sample and recording on it all possible information as to the source and surroundings of the supply. An expert interpretation of a water analysis today cannot be made by the chemist, or bacteriologist alone, but must be made by one who has a knowledge of both of those sciences and must, in addition, include the findings of the sanitary survey.

REPORT OF THE LABORATORY FOR THE MONTH OF JUNE, 1924

DIAGNOSTIC DIVISION

	+	—	?	Total
Typhoid	2	25	3	30
Paratyphoid A	....	30	....	30
Paratyphoid B	....	30	....	30
Diphtheria:				258
Diagnosis	18	200	....	
Release	....	40	....	
Diphtheria Carriers:				....
Diagnosis	....	....	....	
Release	....	....	....	
Diphtheria Virulence	4	3	....	7
Tuberculosis	15	96	....	111
Syphilis	104	1,183	109	1,396
Colloidal Gold Test on Spinal Fluids	5	8	....	13
Gonorrhoea	8	87	....	95
Pneumonia		....		....
Type I	....			
Type II	....			
Type III	....			
Type IV	....			
Malaria	....	5	....	5
Rabies	....	....	....	....
Feces for Typhoid	....	4	....	4
Feces for Paratyphoid A	....	....	....	....
Urine for Typhoid	....	4	....	4
Feces for Amoeba	....	....	....	....
Special	....	1	....	1
Totals	156	1,716	112	1.984

CHEMICAL DIVISION

Milk Examination

Number of towns sending samples	18
Number of samples tested	192
Number of samples below fat standard	15
Number of samples showing low refractive index, indicating watering	0

Water Examination

Number of towns sending samples	67
Number of samples examined	137
Number of sewage examined	0
Total number of samples examined in the division of chemistry during the month of June	329

CLINICAL THERMOMETERS

Number of thermometers passing test	46
Number of thermometers rejected	3
Total number of thermometers tested	*49

*43 of these were certified.

Public Health Nursing

THE PUBLIC HEALTH NURSE RISES TO THE OCCASION

Do people in Connecticut have to be without the services of a public health nurse just because the Connecticut River goes on a rampage and overflows its banks? This was the question that one public health nurse asked herself when she received a call to come to a home to care for a mother and her new baby in a house that was completely surrounded by water. The accompanying illustration shows that when the trusty Ford cannot be used the resourceful nurse uses Venetian methods. It is such resourcefulness and skill that is being put into practice in a less spectacular way by public health nurses in Connecticut as their contribution to a "Clean State and a Healthy People."

At the recent meeting of the National Organization for Public Health Nursing in Detroit the necessity of keeping adequate records was emphasized. Conclusions from the report of the Committee to Study Visiting Nursing emphasize the need for analysis of nursing work. They further emphasize the necessity for every agency to know the essentials of a nursing program, the frequency of care to various types of cases, and the outstanding results of such care in order to plan intelligently for future development. This assembling and critical analysis of the work of a public health nursing agency

should be done quarterly and should be as important a part of its administration as any other administrative function.

Much has been accomplished in record keeping in Connecticut in the past five years and it is with great satisfaction that there can be presented so many summaries from monthly reports of visiting nurse associations—a situation which would have been impossible five years ago. The fact that these monthly reports are submitted by local associations to the State Department of Health speaks well for the cooperation of the health agencies of Connecticut and we look forward to the time when it will be possible to have 100 per cent reporting.

Some idea of the amount of work being done by the public health nurse may be gathered from excerpts from a total of the April monthly reports submitted. During that month 27,679 patients were cared for. Of this number 3,162 were new patients. A recital of figures is apt to be uninteresting but when it is known that a large number of these people could not have hospital care and that they would have had no skilled nursing at home unless the public health nurse had given it, the figures become significant. Think of 310 obstetrical cases and what it means not only for the mother to have had skilled nursing but that the baby could be given skilled care during the first perilous weeks of life.

Think what it means to a young mother who has never seen a baby bathed, to have the nurse bathe and dress the baby several times with the mother looking on, and then have the mother do the bathing and dressing herself with the nurse looking on.

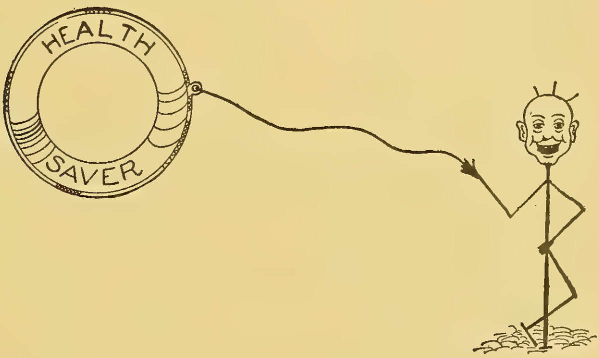
Three hundred and forty-eight prospective mothers were given care and advice under the doctor's directions and 986 children under five years of age came under nursing supervision for the first time, 591 of whom were babies under one year. Sixty-three new cases of pulmonary tuberculosis were cared for by the nurses.

Teaching by demonstration is one of the most valuable assets in public health nursing. One of the most interesting sessions in Detroit was a demonstration giving nursing care to a case of typhoid fever in a tenement home. Every precedure which the nurse carried out was carefully explained to the mother, so that the mother was able to care for the patient in the nurse's absence, protect herself from getting the disease, and protect others by knowing the proper way to dispose of body discharges. Teaching the proper disposal of body discharges, thus preventing the spread of disease, is an important part of the work of the nurse.

The Connecticut reports further state that 125 patients were transferred to hospitals and 28 to tuberculosis sanatoria. An

idea of the vast amount of work may be gained when it is known that 34,886 visits were made by these 50 Associations whose total number of nurses is 177. The totals would be still larger if reports had been received from all the Associations.

While this report represents a large amount of actual nursing care it should not be forgotten that one-half of the time of these nurses, with 18,371 visits, has been given in the interest of health education and preventive work. The nursing visits represent one-half the total and the health education and preventive work the other half. In addition to the other work 141 health talks were given to children and adult groups.



"The Public Health Nurse is the Aeroplane Scout that surveys the field, yet detects the first whiff of smoke which may be the starting point of a devastating fire."

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF JUNE, 1924

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of June, 1924, with the corresponding month for the years 1919, 1920, 1921, 1922 and 1923.

Certain Diseases	Average 1919-1923 for June	Mean 1919-1923 for June	1919	1920	1921	1922	1923	1924
Cerebrospinal Meningitis ..	5	5	2	6	9	5	5	2
Diphtheria	155	154	122	156	205	154	136	111
Encephalitis Epidemic	(Not reportable till 1921)			5	4	0	6	7
Measles	730	556	383	987	287	1437	556	512
Poliomyelitis	2	7	1	1	7	0	0	2
Scarlet Fever	188	179	127	245	179	159	230	341
Smallpox	6	0	0	0	0	26	3	10
Typhoid Fever	25	23	23	15	39	39	9	13
Tuberculosis (pulmonary)	153	137	130	171	192	136	137	128
Whooping Cough	185	237	58	253	237	115	262	74

A comparison of the morbidity on these diseases for the two preceding months, April and May, 1924, with the June, 1924 record is as follows:

	April	May	June
Cerebrospinal Meningitis	2	4	2
Diphtheria	154	125	111
Encephalitis Epidemic	3	4	7
Measles	632	625	512
Poliomyelitis	3	1	2
Scarlet Fever	719	495	341
Smallpox	10	12	10
Typhoid Fever	3	15	13
Tuberculosis (pulmonary)	144	137	128
Whooping Cough	107	109	74

Cases of other reportable diseases. June, 1924

Chickenpox	200	Tetanus	2
Encephalitis Epidemic	7	Trichinosis	1
German Measles	59	Gonorrhoea	92
Influenza	4	Syphilis	116
Mumps	305		
Paratyphoid Fever	1	Total	797
Smallpox	10		

Cases Of Occupational Diseases

Benzol Poisoning	1
Total	1

Cases of Certain Reportable Diseases

June, 1924	Population	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com.
State Total	1,502,405	13	512	341	74	111	2	2	128	25	77	797
NEW HAVEN CO.	**451,336**	**4**	**106**	**73**	**21**	**28**			**56**	**15**	**25**	**237**
New Haven	175,827	2	41	29	4	3			32	13	12	145
Waterbury	100,291	1	3	23	3	19			12	1	2	6
Meriden (city and town)	36,014			2	7	1			3		1	11
Ansonia	18,798			1	1	1			1			8
West Haven	17,354		6	1		1			2			3
Naugatuck	16,130											
Wallingford (town and boro)	12,405			3	1				1			1
Milford	12,893	1	39	1	4						1	7
Derby	12,279					3					2	1
Hamden	9,890		3	4					1		4	39
Branford (town and boro)	6,895				1				1		2	1
Seymour	7,705		1									1
Towns under 5,000	24,855		13	9					3	1	1	14
FAIRFIELD CO.	**355,984**	**3**	**73**	**86**	**30**	**33**		**1**	**30**	**5**	**24**	**125**
Bridgeport	162,491	2	7	57	3	27		1	15	1	12	34
Stamford (city and town)	45,157		32	12	11	1			1	1	1	26
Norwalk	22,292			5	2	1			1		1	10
Danbury (city and town)	21,981			2		2			2			2
Greenwich (town and boro)	24,674	1	2	1	5				7	1	3	6
Stratford	15,422			2	2						4	4
Fairfield	13,950		1	5	5	1			3	2	2	19
Shelton	10,833										1	1
Westport	5,509				1	1						1
Towns under 5,000	26,675		31	2	1				1			22
HARTFORD CO.	**375,816**	**2**	**201**	**104**	**10**	**42**	**1**		**21**	**5**	**15**	**309**
Hartford	156,169	2	68	40	3	21	1		12	3	5	153
New Britain	66,370		28	29		8			3	2		35
Bristol (city and town)	23,918		5	8	2	4			3		1	15
Manchester	20,561		25	10	3	1			1			7
Enfield	12,629		1	1		1			2			1
East Hartford	13,274		2	2		2						12
Southington (town and boro)	9,331		1									
West Hartford	10,729		3	3	1	1					6	48
Windsor	6,287		5		1	1					1	7
Glastonbury	5,960			2								1
Towns under 5,000	50,588		63	9		3					2	30
NEW LONDON CO.	**110,803**	**2**	**24**	**54**	**4**	**4**			**11**		**2**	**24**
Norwich (city and town)	30,303		3	21		2			6		1	
New London	28,421		2	1	2				3			6
Stonington (town and boro)	10,718	1		10	1							2
Groton (town and boro)	10,493	1	15	10								6
Towns under 5,000	30,868		4	12	1	2			2		1	10
LITCHFIELD CO.	**79,046**		**52**	**10**	**5**	**1**			**1**		**2**	**13**
Torrington (town and boro)	24,055											
Winchester (inc. Winsted)	9,095											
Plymouth	6,315			2							1	2
Watertown	7,016											1
Towns under 5,000	32,565		52	8	5	1			1		1	10
WINDHAM CO.	**54,881**	**2**	**22**	**11**	**3**	**2**			**1**		**4**	**23**
Windham (inc. Willimantic)	14,265		4	9		1					2	4
Putnam (city and town)	8,894		17									8
Plainfield	8,465			1					1			
Killingly (inc. Danielson)	8,905					1						8
Thompson	5,171		1	1	3							
Towns under 5,000	9,181	2									2	3
MIDDLESEX CO.	**46,972**		**17**	**2**		**1**		**1**	**8**		**3**	**62**
Middletown (city and town)	22,554		11	1								37
Middletown State Hospital									5			
Towns under 5,000	24,418		6	1		1		1	3		3	25
TOLLAND CO.	**27,567**		**17**	**1**	**1**		**1**				**2**	**4**
Vernon (inc. Rockville)	8,822											
Stafford (town and boro)	5,456		2	1							1	1
Towns under 5,000	13,289		15		1		1				1	3

(For cases of other reportable diseases, see page 190)

CONNECTICUT STATE DEPARTMENT OF HEALTH
BUREAU OF LABORATORIES HAS MOVED
FROM NEW HAVEN TO HARTFORD.

Mail should be sent addressed as follows:

CONNECTICUT STATE DEPARTMENT OF HEALTH
BUREAU OF LABORATORIES
P. O. BOX 1001
HARTFORD, CONN.

The street location is:-

247 Pearl Street,

Hartford, Conn.

Visitors Are Welcome.

Telephone is 2-5722

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 38 August, 1924 No. 8

This Issue Contains

STANLEY H. OSBORN, M. D., C. P. H., Commissioner.

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HARTFORD

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ALL CORRESPONDENCE, except for laboratory outfits, should be directed to
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CONNECTICUT

HEALTH BULLETIN

Vol. 38 | August, 1924 | No. 8

Issued Monthly by the

STATE DEPARTMENT OF HEALTH

THE LABORATORY MOVES TO HARTFORD

On July fourteenth, the Bureau of Laboratories of the State Department of Health was moved to Hartford where it again went into quarters at 247 Pearl Street. This move was made necessary by the expansion of the work of the Connecticut Agricultural Experiment Station whose directors since 1917 have generously given space for the Laboratory in a portion of the Botany Building. Even at that time, when the Laboratory was moved from Middletown to the Experiment Station grounds at New Haven, these headquarters were recognized as temporary, as shown by the 1917 report of the director of the Laboratory.

"While the space so generously provided by the directors of the Experiment Station is limited, it is sufficient for carrying on the work so far done. We have faith to believe that by the time these present quarters are outgrown a way will be found to provide a new commodious building for the permanent home of the Laboratory. Nothing short of this will meet with the requirements of this branch of our public health work, or the expectations of those most directly interested in advancing this."

State Laboratory Organized in 1905

The State Laboratory has been in existence for eighteen years. Authorized by the Legislature in 1905, Chapter 162 of Public Acts of 1905, it was located at Wesleyan University, Middletown, and Professor H. H. Conn., Ph. D., long Professor of Biology at Wesleyan, was appointed its first director. Only through the generous contribution of Wesleyan University and the wise guidance of Professor Conn during these early years was it possible to establish a laboratory on an appropriation of only three thousand dollars a year. The reports of those early days are full of interest in the light of the present day accomplishments. From the bulletins of the State Department of Health are shown some interesting facts.

In December, 1905, we read that the "Director of the Bacteriological Laboratory at Middletown is now ready to make examinations, and report promptly upon specimens sent for the purpose of diagnosing diphtheria, typhoid fever and tuberculosis."

In March, 1906, appears the first monthly laboratory report as follows:

	Pos.	Neg.	Ques.	Total
Diphtheria, diagnosis	11	19	2	32
release	2	9	....	11
Tuberculosis	15	16	....	31
Typhoid	4	4	1	9

This made a total of 83 specimens examined that month.

In July, 1906, the Laboratory began routine examinations on water from public water supplies since the appropriation was inadequate to continue the services of the specialist previously employed to investigate stream pollution.

After January, 1907, water examinations appear regularly in the monthly reports.

In October, 1907, examination of illuminating oil was reported.

In November it was announced that the "State Laboratory is now prepared to undertake diagnosis of malaria." The first malaria examinations were reported that month. Also "The Laboratory is beginning the use of a new style of typhoid outfit to give more accurate results."

In December, oyster and milk examinations were added, and after January, 1910, sewage examination appeared regularly.

During 1911 a greater variety of specimens were examined —glanders, cerebro-spinal meningitis, gonorrhoea, and leprosy.

In September, 1913, appeared the announcement that "arrangements have been made for the Wassermann test to be made regularly once in two weeks, and oftener if the number of specimens demand it."

In August, 1914, the report of the milk examinations which had been continued since 1907, included a general grade based on certain standards which today are still in use in grading milk samples.

In January, 1915, examinations of river water and of ice were reported.

Thus read the early reports of the laboratory each year marking progress as new work developed and increased service was demanded. At the head of the laboratory was a man of broad vision, well versed in problems of sanitation and public health, particularly in the handling of milk. It was necessary in those early days to educate the public and particularly the physicians and health officers to the value of the

laboratory, to inspire confidence in its work, and encourage a free use of it. This evidently was accomplished, for Professor Conn reports in 1916, "during the first year 900 specimens were submitted for examination but in 1916, there were 15,000 examinations made. These being more complicated, represent more than fifteen times the amount of work."

Meanwhile the director was studying the problems of developing a laboratory that should serve the needs of the State in the most efficient way. He writes at this time "A State Laboratory has the peculiar experience of finding that the more it demonstrates its value the more its work is taken away and placed in local laboratories, as quick diagnoses are needed, and city laboratories are established for this purpose. So the function of the State Laboratory is to specialize in work too costly or too difficult for small communities and to develop new lines of work of value to public health. It is hard to decide which ones are most important and which are most feasible or practical."

State Laboratory Becomes Bureau of Laboratories

The year 1917 marked important changes in the history of the laboratory. In April, Professor Conn died, after eleven years of splendid service as organizer and director of the laboratory.

In May, 1917, coincident with the Public Act of the Legislature creating a State Department of Health, the State Bacteriological Laboratory became the Bureau of Laboratories in this new organization, as authorized in Section 7 of Chapter 391. "Said department shall maintain Bureaus of Vital Statistics, Preventable Diseases, Laboratories and Sanitary Engineering."

In July, 1917, Charles J. Bartlett, M. D., of New Haven, was appointed Director of The Bureau of Laboratories, to fill the vacancy caused by Professor Conn's death, and the laboratory work was carried on under the wise and painstaking leadership of Dr. Bartlett, until his resignation in June, 1924. Dr. Bartlett was a well known leader in laboratory work, having been director of the Pathological Laboratory at Yale for many years.

In September, 1917, the Laboratory was moved from Middletown to New Haven. Space was provided on the grounds of the Connecticut Agricultural Experiment Station. It seemed wise to accept this offer, though the space was limited to one floor and basement in a small frame building, "until such time as plans could be matured and an appropriation secured for a modern laboratory building."

Under The Public Acts of 1919, Chapter 62, Section 2370, Revision of 1918, is amended to read "State Department of

Health may establish and control a bacteriological laboratory where examination of supposed morbid tissues for diagnoses of infectious diseases shall be made, free of expense upon the application of registered physicians or health officers, and for such purpose may provide necessary buildings and apparatus, employ bacteriologists and assistants, and do all things necessary for the proper conduct of such laboratory."

The work of the new Bureau progressed rapidly and it was soon apparent that the new quarters were entirely inadequate for the purpose. Recognizing the need for larger quarters the Legislature of 1918 made an appropriation of $100,000 for a new building to be erected on the grounds of the Experiment Station at New Haven and used jointly with them. The construction of this building would have been pushed to completion had not war conditions and inflated prices made it prohibitive.

Meanwhile the work of the Bureau of Laboratories was carried on under crowded conditions, the four assistants employed in 1917 had increased to twelve in 1919. This necessitated an increase in appropriation from $9,000 to $13,000 per year. In November, 1919, 3,000 examinations were made and in June, 1920, there were 5,000 specimens examined. Since July, 1918, Wassermann tests have been made twice a week to meet the growing demand stimulated by the increased effort to control syphilis in the state.

In 1923 the colloidal gold test on spinal fluid was initiated to give further evidence in the examination for syphilis.

In 1921 the Legislature authorized the State Department of Health to examine clinical thermometers. The necessary equipment was installed and the work was started in February, 1923.

Laboratory in Operation at Its Third Headquarters

So the work has progressed until the present time. The Bureau of Laboratories now has fourteen employed on its staff and its biennial appropriation is now $60,000. With the addition of new work and the perfecting of new and more exacting methods in laboratory technic, the inadequacy of the present quarters to meet the needs has become an ever increasing problem. While the space provided by the Experiment Station at New Haven has for some time proven too congested for the proper accomplishment of the work, it was hoped that a new and suitable laboratory building might be the next step toward laboratory expansion. But this was not to be, for in April of the present year, the State Department of Health had to move its Bureau of Laboratories from the quarters at New Haven as the Experiment Station wished to use this space for an expansion of their own work.

Choice of a new home naturally led to Hartford and two floors in the building on the corner of Pearl and Ann Streets were selected as suitable headquarters until such time as a state building may be made available. Necessarily a change in headquarters led to a change in staff. Dr. Bartlett, who had been Director of the Bureau of Laboratories since 1917 and under whose initiative new methods and work had been established, resigned, as his private laboratory work would keep him in New Haven.

So, on July fourteenth the Bureau of Laboratories made its third move. Once again this seems like a step in the right direction and, it is hoped, nearer the goal of a home of its own. Hartford with its splendid transportation facilities by railroad and automobile bus service, will undoubtedly prove more central than New Haven for the majority of the towns in the State. Located in the Capitol city it will be more accessible for use by other state commissions, boards and departments.

As an indication of the growth of the laboratory since its beginning, 3,348 examinations were made in March, 1924, as compared with 83 examinations in March, 1906. A table is given below showing the specimens examined during the six month period January 1, to June 30, 1924.

Specimens Examined January 1st, to June 30th, 1924

	Jan.	Feb.	Mar.	Apr.	May	June	Totals
Typhoid	33	37	27	21	25	30	173
Paratyphoid A	16	37	27	21	25	30	156
Paratyphoid B	33	37	27	21	25	30	173
Diphtheria Diagnosis	831	548	500	425	294	218	2816
Diphtheria Release	470	446	400	334	292	40	1982
Diphtheria Carriers Diagnosis	1021	263	170	8	....	....	1462
Diphtheria Carriers Release	96	14	....	....	....	....	110
Diphtheria Virulence	36	5	7	5	3	7	63
Tuberculosis	109	112	141	132	107	111	712
Syphilis	1593	1530	1443	1795	1601	1396	9358
Colloidal Gold test on special fluids	9	30	22	25	15	13	114
Gonorrhoea	64	58	52	68	52	95	389
Glanders	....	....	....	....	....	....	....
Pneumonia Type I	....	....	....	....	....	....	....
Type II	....	....	....	....	....	....	....
Type III	....	....	....	....	....	....	....
Type IV	1	1	....	2	....	....	4
Malaria	....	1	2	3	4	5	15
Rabies	2	....	2	4	4	....	12
Feces for Hookworm Ova	....	2	6	....	....	....	8
Feces for Paratyphoid A	....	....	1	1	....	....	2
Feces for Paratyphoid B	....	1	....	....	....	....	1
Feces for Typhoid	15	13	6	6	8	4	52
Feces for Amoeba	1	....	4	....	....	....	5
Urine for Typhoid	11	9	6	3	3	4	36
Special	3	1	....	....	....	1	5
Milk	183	145	217	251	203	192	1191
Water	121	90	105	131	133	137	717
Sewage	....	....	2	....	....	....	2
Thermometers Tested	248	407	118	187	141	49	1150
Thermometers Certified	133	226	63	7	65	43	537
		Totals					21,245

Laboratories

THE LABORATORY AS A FACTOR IN TYPHOID ERADICATION

A state without typhoid is the goal that Connecticut state and local health officials are aiming to reach. Whereas formerly attempts to wipe out this disease have stressed especially purification of water and the safeguarding of water supplies, more recent years have demonstrated the added need for the location and isolation of typhoid cases and carriers, as these have proven to be an important factor in the spread of the disease. Constant vigilance in the control of these factors is the aim of health authorities, and this can only be consummated by the united effort of sanitary engineers, physicians and health officers and the state and local laboratories. For the year 1923 there were reported in Connecticut 295 cases of typhoid with 38 deaths. From these figures it is evident that the goal for the elimination of typhoid has not yet been reached. The laboratories have their part in these lines of activity. For the isolation and identification of cases and carriers, agglutination, or Widal, tests, and blood cultures are made. Feces and urine are examined for the presence of typhoid bacilli to determine whether a case has recovered or whether a carrier has been freed from the germs.

While typhoid fever is usually considered a germ disease caused by the Bacillus typhosus, there are two other closely related bacteria called Paratyphoid A and Paratyphoid B, which produce diseases so similiar that they are usually grouped together with that produced by Bacillus typhosus and the entire group considered as typhoid fever. In the laboratory, however, it is frequently of value to differentiate between these three organisms, so tests are made separately for each of the three.

The Widal Test for Typhoid

One important aid in the diagnosis of typhoid and Paratyphoid is the Widal test carried out with a sample of the patient's blood. For this purpose a few drops of blood are collected in a capillary tube shown in Figure 1.

This tube is inserted in the outer container which is tightly corked, and mailed in the envelope, together with the record form bearing the name of the physician and health officer as well as data concerning the patient. Figure 1 shows this outfit.

When the sample reaches the laboratory it is properly recorded and numbered on the accompanying card. It is then taken to the diagnostic division where the capillary tube is

Figure 1. Typhoid Outfit Showing Capillary Tube for Widal Test

broken at one end, and the serum removed by means of a sterile capillary pipette as used by the worker in Figure 2.

The Widal test is a test for the agglutination, or clumping, of the typhoid bacilli that cause the disease. The test has been devised through the discovery that there is a substance formed in the blood as a result of infection, which is capable of causing the motile bacteria in such cultures of typhoid or paratyphoid to clump or collect in groups. Unlike many of the other diagnostic tests, the motility of the bacteria is a distinguishing feature of the Widal test. As the bacilli agglutinate they lose their motility, and this point must be observed carefully. In order to make these observations a hanging drop is made. This is shown in Figure 2.

First there must be a fresh broth, pure culture of typhoid organisms. Whenever a Widal test is made this culture is tested to make sure that the typhoid bacilli contained in it, do not agglutinate spontaneously as this is to be used as the control. To make a hanging drop a clean cover glass is prepared on which is dropped one loopful of the broth culture and one loopful of physiological salt solution. This is inverted over a special glass slide which is depressed in the center and to the edge of which some vaseline has been applied. The drop should remain in hanging position as the cover glass is firmly attached to the slide. This is now ready to be examined under the microscope. Against this control the patient's blood serum is tested. Hanging drops of the specimens (patient's blood serum) are made with two dilutions

as follows, the serum in the capillary tube is drawn up into a long sterile capillary pipette and its measure carefully noted. Into the same pipette is drawn enough physiological salt solution to make a dilution of 1 - 20. A drop of this is put on a clean cover glass. Into the capillary pipette is now drawn enough physiological salt solution to make the dilution 1 - 40 and a drop of this is put on another cover glass. To each cover glass is now added a drop of the fresh typhoid broth culture, these are thoroughly mixed, and the hanging drops are completed as described. These now give dilutions of 1 - 40 and 1 - 80.

Figure 2. Making the Hanging Drop for the Widal Test

In Figure 2 will be seen the preparation for making nine such hanging drops. On each specimen received a test is made for three different typhoid organisms, typhoid, paratyphoid A and paratyphoid B. The tests for paratyphoid A and B are made in the same way as for typhoid, except that these organisms are used in place of typhoid for the controls and tests.

So, with each specimen of blood is run three series of tests, or hanging drops, each consisting of a pure culture as a control, and two diluted specimens mixed with the known culture.

These are now incubated for one-half hour after which they are examined under the microscope. While in each series is used a different organism the same effect is to be noted in each. In the control drop the bacteria are in lively motion and are not gathered in groups. When this is also noted in the samples tested it signifies a negative result. When the organisms in the test appear in clumps and are not in motion, it is a positive test and is reported as typhoid, paratyphoid A or

paratyphoid B, according to the one in which it is found. If only part of the organisms are clumped this is a doubtful test and is so reported. If clumping and loss of motility occurs in all three series, the tests are repeated in order to eliminate all but one. This is done by using greater dilutions. Dilutions are made even up to 1 - 1200, until all but one have been eliminated. This is reported on the blank as positive for typhoid or para A or para B, and the dilution is specified. If in the 1 - 40 dilution the test reads typhoid positive, and para A and B partial, later dilutions will give a check on this result for in higher dilution, say 1 - 80, it might read typhoid positive, A and B negative. In this case it would be reported typhoid positive, 1 - 80 dilution.

While the Widal test is the one most commonly used as an aid in diagnosing typhoid or paratyphoid fever, it is unfortunately only applicable after ten to fourteen days from the first appearance of illness. This is because it seems to take about that length of time for the agglutinating substances to form in the blood of the patient. For an earlier laboratory aid in diagnosis it is necessary to resort to the use of a blood culture.

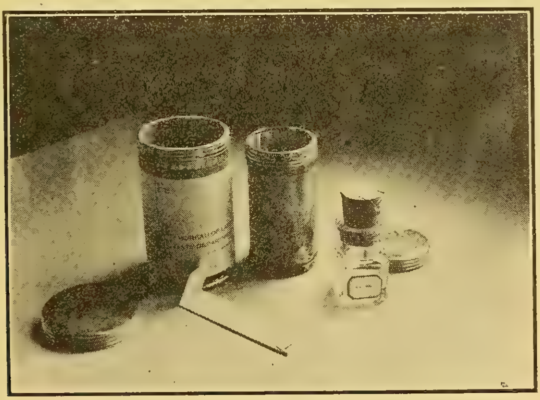

Figure 3. Typhoid Outfit for Feces and Urine Examinations.

A blood culture is made by withdrawing a small quantity of blood from the arm of the patient, and placing it in a tube, or flask, of broth medium. This is then incubated, and if the blood contained any typhoid, or paratyphoid germs, they will multiply rapidly and will be found in large numbers in the culture within 48 hours. If, on the other hand, there are no organisms in the blood the culture will remain sterile and no bacteria can be found in it. After these bacteria are found they are isolated in pure cultures and studied carefully to

determine what kind they are. The final step in such a study is to run agglutination tests with the bacteria against the blood of patients, or animals known to show a positive agglutination with the various types of typhoid and paratyphoid bacteria.

Examination for Feces and Urine

Beside the Widal test and blood culture examinations for the presence of typhoid bacilli in blood, the laboratory examines samples of feces and urine to determine whether a patient has recovered from the disease or still harbors the typhoid germ and so may be a carrier.

The outfit for this test is shown in Figure 3.

Contained in this outfit is a small bottle which may be used for either feces or urine; if both are to be examined, separate outfits are sent. In the bottle is some diluted glycerine to inhibit the growth of organisms other than the typhoid group, and accompanying this is a sterile swab with which a portion of the patient's stool is transferred to the bottle. The swab is destroyed and the bottle with the sample is returned to the laboratory in the double container. The urine is collected in a similiar bottle and sent for examination.

Since different types of bacteria react differently in various kinds of culture media it is possible, in most cases, to isolate and identify typhoid or paratyphoid organisms from feces and urine through a study of their behavior in selected media. The basis of these various media is the standard beef broth agar, and to this are added small amounts of certain sugars and dyes. They are then studied after innoculation and a period of growth, to determine whether the bacteria ferment the sugars, and whether they cause color changes to take place in the dyes.

For the feces examination, four petri dishes are arranged with solid media, two with "Brilliant Green" and two with "Eosin methylene blue." The duplicates are streaked by smearing over the surface of each some of the liquid part of the specimen, this being applied with a double loop platinum needle.

For the urine examination two Brilliant Green and two Endo plates are prepared in the same way as for feces. After incubation over night these are examined with a hand lens to detect any suspicious colonies. Brilliant Green inhibits most organisms but allows typhoid and para A and B to grow. A typical colony appears as a rather small translucent growth with a rough edge. On the Eosin methylene blue and Endo plates typhoid forms a small, almost colorless colony, while if Coli bacilli are present they appear red with a bluish center and can not be mistaken for the real typhoid bacilli. When

a suspicious looking colony appears on any of these plates it is fished with a sterile platinum needle and streaked on Russell's triple sugar medium which is hardened on a slant in a test tube. This medium is then stabbed with the same needle and incubated for 18 - 24 hours. From the results it is possible to distinguish between the different organisms typhoid, para A, and para B. In the Russell triple sugar tubes several changes take place. The medium, which before use is a light brown in color, turns red in the presence of acid, formed by any acid producing colonies. The tubes further will show bubbles of gas in the solid medium if the organisms are capable of producing gas. Since the surface of the tube is exposed to air and this is excluded from the deeper parts, organisms can be classified by their different reactions in the presence, or absence of atmospheric oxygen, as shown by the colors produced in the upper or lower layers of the medium. Bacillus coli will change the whole tube to a bright red color, and gas bubbles will appear throughout the medium. Bacillus paratyphoid shows a somewhat mottled appearance, the surface brown, with the deeper parts red, and gas in the deeper parts of the tube only, while bacillus typhosus causes the bottom of the medium to turn red while the top remains brown, and no gas is produced in any part of the tube. These tests are well represented by the three tubes shown in Figure 4.

Figure 4. Positive Tests for Typhoid, Coli and Paratyphoid, grown in "Russell's Medium"

At the left of Figure 4 is shown the typhoid reaction, in the center, Bacillus coli, and at the right the paratyphoid group. Could this be illustrated in color the tests would be more easily distinguished, the central tube all red with much gas in the but, the other two mottled with red below the surface, and the one on the right broken up with gas bubbles.

If this test indicates the presence of the paratyphoid group it is further tested with lead acetate to distinguish between para A and B. If it is the latter there will be a dark discoloration on the line of the stab. If there is a positive test for any one of the three, typhoid, para A or B, the test is made with the immune sera as controls as described previously for the Widal test.

Having completed the tests for typhoid, the report blanks are filled out, one for the Widal test naming the organism agglutinated, and in what dilution and one each for feces and urine. These reports are filed at the Laboratory, and copies sent to the physician and Health Officer. If the feces and urine are found positive it is so reported as typhoid, para A or B and for a positive Widal, the dilution of the final test with the known serum is reported. If the feces or urine reports are positive, the patient must be kept under observation until such time as negative reports on subsequent tests are returned. Strict adherence to this rule is necessary as a safeguard against the spread of typhoid fever by convalescent patients.

The control of typhoid fever is a complex procedure, and requires a large amount and variety of work. After the laboratory has completed its determinations the results are reported to the patient's physician, the local health officer, and the State Department of Health, and these various authorities then do the field work necessary to keep the germs from finding their way from the excretions of patients or carriers to the water or food supply of the citizens of the state.

During the year 1923 when 295 cases of typhoid were reported in the state, the Bureau of Laboratories of the State Department of Health examined 539 samples of blood and 276 samples of urine and feces.

All laboratory correspondence should be directed to the State Department of Health, Bureau of Laboratories, P. O. Box 1001, Hartford, Conn.

REPORT OF THE LABORATORY FOR THE MONTH OF JULY, 1924

DIAGNOSTIC DIVISION

	+	—	?	Total
Typhoid	4	48	8	60
Paratyphoid A	....	60	....	60
Paratyphoid B	....	58	2	60
Diphtheria:				447
Diagnosis	32	252	....	
Release	20	143	....	
Diphtheria Carriers:				477
Diagnosis	....	465	....	
Release	....	12	....	
Diphtheria Virulence	2	16	....	18
Tuberculosis	21	68	....	89
Syphilis	113	1134	201	1448
Colloidal Gold Test on Spinal Fluids	5	11	5	21
Gonorrhoea	10	37	....	47
Pneumonia:	....	....	....	1
Type I	....			
Type II	....			
Type III	....			
Type IV	1			
Malaria	....	2	....	2
Rabies	1	2	....	3
Feces for Typhoid	....	13	....	13
Urine for Typhoid	....	5	....	5
Feces for Amoeba	....	2	....	2
Special	1	....	....	1
Totals	210	2328	216	2754

CHEMICAL DIVISION

Milk Examination

Number of towns sending samples	21
Number of samples tested	226
Number of samples below fat standard	13
Number of samples showing low refractive index indicating watering	1

Water Examination

Number of towns sending samples	65
Number of samples examined	144
Number of sewage examined	0
Total number of samples examined in the division of chemistry during the month of July	370

SUMMARY

Total number of specimens examined:	
In diagnostic division	2754
In chemical division	370
Total	3124

Vital Statistics

MONTH OF JUNE, 1924

Births

The births which were reported to this department during the month of June numbered 2,491, a decrease of 70 over the 2,561 reported in 1923. This is the smallest number of births which has been reported for the month in the last six years with the exception of 1922, in which year, by coincidence, exactly the same number of births were registered. The average number of births reported over the period 1918—1923 is 2,595 and it therefore appears that 1924 is 104 below the average.

There are 47 towns in the state having population of 5,000 or more, and of these towns 21 show increased number of births for 1924 over 1923. In 10 the increase was 10 or more. The following is a list of these towns, the figures after each indicating the increase: Bridgeport, 15; Bristol, 17; Greenwich, 10; Manchester, 11; New Haven, 13; Putnam, 10; Stamford, 13; Waterbury, 22; West Haven, 11; Windham, 18.

There were reported 96 stillbirths in 1924, an increase of 10 over the 86 reported in 1923. Combining the living and stillbirths the total number of births for 1924 is 2,587 and of this total the stillbirths constitute 3.70 per cent. In 1923 the total number of births was 2,647 and 3.25 per cent of this number were stillbirths.

Deaths

For the month 1,284 deaths were reported, 30 less than the 1,314 reported in 1923. In each month of 1924 so far the mortality has been lower than in 1923, so that the accumulated decrease to include June has now reached 1,149. The largest decreases, as might be expected, occurred during the winter months, in which season there was a very favorable reduction in deaths from pneumonia and influenza. Unless some unforseen catastrophe enters to upset every calculation, it may be fairly expected that 1924 is to be a banner year—perhaps even more favorable than the record of 1921, during which the state experienced the best year of which we have any record, and for which the crude death rate was 11.4 per 1,000 population. Certainly at present there is every indication that this record will be surpassed.

In order that a comparison may be made between 1924 and 1923 for certain diseases the following table has been prepared to exhibit either the increase or decrease for these diseases.

CAUSE OF DEATH	1924	1923	INCREASE	DECREASE
Diseases of the Heart	187	192	....	5
Epidemic Encephalitis	4	5	....	1
Pneumonia, Undefined	2	2	....	....
Typhoid Fever	3	1	2	....
Measles	5	6	....	1
Scarlet Fever	3	4	....	1
Whooping Cough	3	10	....	7
Diphtheria	10	14	....	4
Influenza	9	4	5	....
Tuberculosis, Pulmonary	109	103	6	....
Tuberculosis, Other forms	8	3	5	....
Cancer	123	123	....	....
Cerebrospinal Meningitis	2	1	1	....
Poliomyelitis	....	1	....	1
Pneumonia, Lobar	37	33	4	....
Pneumonia, Broncho	54	39	15	....
Diarrhoea and Enteritis, (Under 2)	16	22	....	6
Puerperal Diseases	12	17	....	5
Accident	94	97	....	3
Suicide	9	17	....	8
Homicide	2	1	1	....
Other Causes	592	619	....	27
Totals	1,284	1,314	39	69

There is apparent no startling reduction. In the previous months the pneumonias have shown decreases, but in this month there are increases. Of the accidental deaths 21 were due to automobile accidents. In 1923 there were 19 such deaths.

Infant Mortality

Of the total number of deaths, 162 were for infants under 1 year. This is a decrease of 25 below the 187 reported in 1923. The infant mortality rate per 1,000 living births is 63.0. One year ago it was 73.1.

Marriages

The marriages reported were 1,858, 203 below the 2,061 reported in 1923. The average number over the period 1919-1923 is 1,903. 1924 is therefore 45 below the average.

The list of towns from which no report has been received is smaller than usual. There should be no such list and it is to be hoped that the smaller list this month is an indication that it will soon entirely disappear.

Births, Marriages and Deaths

June, 1924 Statistics	Population Based on U S Census Est. as of July 1, 1924	TOTALS: Births	Still Births	Marriages	Deaths	DEATH RATES: All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	AGE GROUPS: Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,502,405	2491	96	1858	1284	10.3	0.9	63.0	162	50	434
Ansonia	18,798	27	1	23	17	10.9	1.3	282.3	8	2	3
Branford	6,895	5	1	10	2	3.5	....	114.3	1	....	....
Bridgeport	162,491	279	12	180	126	9.3	0.5	66.1	18	9	33
Bristol	23,918	63	2	40	20	10.0	0.5	86.6	4	2	5
Danbury	21,981	39	1	28	24	13.1	1.1	45.3	2	1	9
Derby	12,279	35	....	13	14	13.7	....	82.4	3	2	3
East Hartford	13,274	9	1	14	7	6.3	....	88.2	1	1	8
Enfield	12,629	18	1	28	9	8.6	1.0	40.5	1	1	....
Fairfield	13,950	15	....	9	12	10.3	....	115.9	2	....	4
Glastonbury	5,960	8	....	9	2	4.0	....	142.8	1	....	1
Greenwich	24,674	38	1	71	26	12.6	1.0	54.9	2	....	7
Groton	10,493	8	....	14	4	4.6	....	74.1	1	....	2
Hamden	9,890	15	....	11	7	8.5	2.4	135.5	2	....	2
Hartford	156,169	314	13	245	132	10.1	1.2	34.1	11	6	47
Killingly	8,905	10	2	7	6	8.1	....	....	....	1	3
Manchester	20,561	42	....	20	15	8.8	0.6	29.3	1	....	9
Meriden	36,014	58	6	53	32	10.7	1.0	31.4	2	2	16
Middletown	22,554	34	....	25	39	20.8	1.1	80.2	4	1	16
Milford	12,893	....	....	....	....	....	....	....	....	....	....
Naugatuck	16,130	17	....	23	4	3.0	0.7	....	....	....	1
New Britain	66,370	117	2	65	46	8.3	1.3	50.6	7	2	11
New Haven	175,827	329	14	227	151	10.3	0.8	57.7	19	6	50
New London	28,421	61	3	45	32	13.5	0.4	47.8	3	2	10
Norwalk	29,292	51	4	31	36	14.7	0.4	81.9	4	....	13
Norwich	30,303	70	1	34	39	15.4	0.8	75.6	5	....	12
Plainfield	8,465	11	....	10	6	8.5	1.4	300.0	4	....	2
Plymouth	6,315	9	....	6	3	5.7	....	....	....	....	1
Putnam	8,894	18	3	10	3	4.0	....	....	....	....	1
Seymour	7,705	9	....	9	5	7.8	....	107.1	1	....	3
Shelton	10,833	18	....	10	15	16.6	....	63.4	1	....	4
Southington	9,331	14	....	9	4	5.1	....	....	....	....	1
Stafford	5,456	19	....	6	5	11.0	2.2	167.8	2	1	....
Stamford	45,157	98	5	88	38	10.1	0.3	33.7	3	2	10
Stonington	10,718	14	....	17	6	6.7	....	....	....	....	2
Stratford	15,422	10	....	11	10	7.8	....	55.3	1	1	4
Thompson	5,171	10	1	4	2	4.6	....	....	....	....	1
Torrington	24,055	42	4	15	12	6.0	....	26.7	1	....	7
Vernon	8,822	9	....	16	6	8.2	....	91.6	1	....	5
Wallingford	12,405	15	....	5	9	8.7	1.0	....	....	....	5
Waterbury	100,291	187	6	104	97	11.6	1.2	117.3	22	3	22
Watertown	7,016	4	....	8	6	10.3	1.7	220.1	2	....	2
West Hartford	10,729	17	1	10	11	12.3	1.1	204.5	3	....	4
West Haven	17,354	44	....	18	19	13.1	2.1	....	....	1	3
Westport	5,509	3	....	7	2	4.4	....	....	....	....	1
Winchester	9,095	15	1	12	6	7.9	....	109.5	2	....	....
Windham	14,265	35	1	23	17	14.3	0.8	....	....	2	3
Windsor	6,287	8	....	3	6	11.5	....	137.9	1	....	3
Towns under 5,000	212,439	220	9	232	194	11.0	1.3	64.5	16	2	90

for the month of June, 1924

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis—Pulmonary	Tuberculosis—Other Forms	Cancer	Meningitis—Cerebro-Spinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea and Enteritis under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
187	4	2	3	5	3	3	10	9	109	8	123	2	......	37	54	16	12	94	9	2	439	222
2	......	......	......	......	......	......	......	2	1	......	......	......	......	......	1	1	......	1	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1
13	1	......	......	......	1	......	5	1	6	......	11	......	......	5	6	3	1	8	......	......	65	9
1	......	......	......	......	1	......	......	......	1	......	4	......	......	2	......	......	......	1	......	......	4	3
3	......	......	1	......	......	......	......	......	2	......	3	......	......	......	......	......	......	2	......	......	10	4
2	......	......	1	......	......	......	......	......	......	......	2	......	......	......	......	......	......	5	......	......	6	6
1	......	......	......	1	......	......	......	......	......	......	......	......	......	......	1	......	......	1	......	......	......	1
2	......	......	......	......	......	......	......	......	1	......	1	......	......	......	1	1	......	1	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	2	......	......	1	......	......	......	......	2	......	......	......
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
3	......	......	......	1	......	......	......	1	2	......	......	......	......	......	1	......	......	1	......	......	13	5
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1	1	......	......	......	......	......	......
27	1	1	......	......	......	......	2	......	10	......	21	......	......	3	7	......	1	6	......	1	62	31
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	1
2	......	......	......	......	......	......	......	......	1	......	4	......	......	......	......	......	......	1	......	......	4	......
7	......	......	......	......	......	......	......	......	3	1	1	......	......	......	1	......	1	3	......	......	10	5
3	......	......	......	......	......	......	......	......	4	......	2	1	......	3	2	......	......	2	......	......	28	20
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......
8	......	......	......	......	......	......	......	......	5	......	5	......	......	......	1	3	......	5	......	1	9	2
18	1	......	......	......	......	......	2	......	12	1	16	......	......	7	10	1	2	8	1	......	72	20
5	......	......	......	......	......	......	......	1	......	1	......	......	......	1	......	......	1	4	......	......	19	10
7	......	......	1	......	......	......	......	......	1	1	5	......	......	1	......	......	......	2	......	......	8	3
5	......	......	......	......	......	......	1	......	10	......	1	......	......	1	......	1	......	4	......	......	15	9
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	2	1
2	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......
3	......	......	......	......	......	......	......	......	7	......	1	......	......	......	1	......	......	......	......	......	7	7
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	1	1	......	......	......	......	......	......	......	......	2	......	......	1	3
6	......	......	......	......	......	......	......	......	......	1	5	1	......	1	1	......	......	5	1	......	9	3
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......
1	......	......	......	......	......	......	......	......	......	......	1	......	......	1	......	......	......	......	......	......	......	1
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	2	......	......	1	......	......	1	......	......	......	......	1	......	3	1
2	......	......	......	......	......	......	......	......	......	·1	1	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	1
13	......	......	......	......	......	1	......	......	7	1	9	......	......	2	4	......	3	8	......	......	32	7
1	......	......	......	......	......	1	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	1	......	......	......	......	......	2	......	......	2	1	1	......	......	......	......	5	2
2	......	......	......	......	......	......	......	......	6	......	......	......	......	......	......	......	......	2	......	......	4	5
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	1	......	2	1
1	......	......	......	......	......	......	......	......	......	......	2	......	......	......	1	1	......	......	......	......	9	3
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	3	......	......	......	1
33	1	1	......	3	......	1	......	1	27	......	17	......	......	6	14	3	2	15	3	......	40	55

Six Year Study—June, 1919-1924

CONNECTICUT	1919	1920	1921	1922	1923	1924
BIRTHS *Birth Rate*	2426 19.9	2754 23.7	2743 23.2	2491 20.6	2561 20.8	**2491** **20.0**
MARRIAGES *Marriage Rate*	1735 14.2	2117 18.2	1911 16.1	1691 14.0	2061 16.8	**1858** **14.8**
DEATHS *Death Rate*	1211 9.9	1306 11.2	1216 10.3	1175 9.7	1314 10.7	**1284** **10.3**
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	180 14.9	181 13.9	156 12.8	150 12.7	144 11.0	**144** **11.2**
DEATHS UNDER 1 YEAR *Rate per 1000 births*	182 64.2	208 73.0	162 57.0	153 59.1	187 73.1	**162** **63.0**

*Includes: Typhoid Fever, Measles, Scarlet Fever, Whooping Cough. Diphtheria, Tuberculosis Pul., Cerebro-Spinal Men., Poliomyelitis.

Towns from which no report has been received, June, 1924*

BIRTHS	MARRIAGES	DEATHS
Franklin	Durham	Franklin
Madison	Franklin	Milford
Milford	Milford	New Fairfield
	Old Lyme	Plainville
	Plainville	Union

*This bulletin goes to press the 5th of each month.

A Correction

In the Bulletin for July, on pages 176-177, the figures are for **May, 1924** and **not** for June, as printed.

MORE WOMEN THAN MEN IN CONNECTICUT HAVE CANCER

Tabulations covering a ten year period, 1908 to 1917 inclusive, indicate that 62.8 per cent of the cancer victims in Connecticut during this period were women while 37.2 per cent were men. This is based on a total of 9,902 deaths from cancer in the state during this ten year period. More than one-third of these deaths, or 34.8 per cent to be exact, were due to cancer of the stomach and liver. Other information developed by this tabulation is given in the following table:

Deaths from cancer in Connecticut by organs affected, and sex, for a ten year period, 1908 to 1917 (inclusive)

	Number of Deaths			Percentage of Deaths		
	Male	Female	Total	Male	Female	Total
Buccal Cavity (mouth)	352	69	421	83.6	16.4	4.3
Stomach and Liver	1620	1825	3445	47.0	53.0	34.8
Peritoneum, Intestines, and Rectum	530	857	1387	38.2	61.8	14.0
Female Genital Organs	....	1454	1454		100.0	14.7
Breast	8	1092	1100	.7	99.3	11.1
Skin	211	99	310	68.1	31.9	3.1
Other Organs or Organs not not specified	968	817	1785	54.2	45.8	18.0
Total	3685	6217	9902	37.2	62.8	100.0

A Disease of Adult Life—Cancer is not a seasonal disease though there appears to be a slight tendency toward a few more deaths in the late summer than at other seasons of the year. It is, however, distinctly a disease of mature life. About 92 per cent of all deaths occur after the age of 40. This, together with the fact that nearly two-thirds of the cancer deaths occur in women, indicates the groups of people more exposed to this disease.

Cancer an Uncontrolled Growth of Tissues—Perhaps the nature of cancer may be more readily understood by remembering that the tissues of the body are composed of very tiny "cells." The activities of these cells are so controlled by forces little understood that the cells work together in one harmonious community to form the body. When, for some unknown reason, a few cells in one group revolt against the body control of cell growth and begin an orgy of uncontrolled growth and multiplication, the result is beginning cancer. After a time, cancer cells may escape from the original growth,

be carried to other parts of the body, and set up, secondary cancer growths in other organs. The cancer cells often grow so rapidly as to shut off their own blood supply and cause the death of some of the cells. When located near the skin or mucous membrane this may result in ulceration.

Benign Tumors—An abnormal mass of cells that does not ulcerate or spread to other tissue is called a benign tumor to distinguish it from the group of malignant tumors called cancer. Tumors that are benign at first may later become malignant and for this reason all tumors should be carefully watched.

Ten Important Facts—In order that cancer may be prevented or readily cured when it occurs, every adult should know certain facts in regard to this malignant disease. The most important of these facts may be summarized as follows:

1. Cancer often begins as a local growth which can be safely and easily removed.
2. At first, cancer is usually painless.
3. Cancer is not a constitutional disease, is not contagious and is not hereditary.
4. Medical advice should be sought for lumps, persistent abnormal discharge, bleeding from any bodily orifice, continued indigestion or loss of weight.
5. Warts, moles, or birth marks which change in size, color or appearance, and sores, cracks, lacerations, lumps, and ulcers which do not heal promptly call for medical advice lest they turn into cancer.
6. Cancer usually develops in tissues subject to long continued irritation of some form. **Eliminating such irritation prevents cancer.**
7. Cancer of the rectum is often thought at first to be piles unless there is a thorough medical examination.
8. Symptoms suspicious of cancer call for a careful and thorough medical examination before treatment is undertaken.
9. Drugs and pastes are practically worthless in the treatment of cancer. Advertising doctors are not to be trusted.
10. In general, the best treatment for cancer is surgery. X-rays and radium have their place in treating certain types of cancer, particularly cancer of the skin.

INCIDENCE OF DISEASE FOR MONTH OF JULY, 1924

(as compared with previous months)

A comparison of the daily morbidity reports received during the month of July, 1924, with the corresponding month for the years 1919, 1920, 1921, 1922 and 1923.

Certain Diseases	Average 1919-1923 for July	Mean 1919-1923 for July	1919	1920	1921	1922	1923	1924
Cerebrospinal Meningitis ..	7	9	0	9	11	6	9	5
Diphtheria	125	127	89	148	149	111	127	133
Encephalitis Epidemic (Not reportable till 1921)				0	5	3	7	3
Measles	258	224	157	224	147	502	258	261
Poliomyelitis	5	9	0	2	13	1	9	15
Scarlet Fever	106	115	65	125	146	80	115	123
Smallpox	2	0	0	0	0	11	0	26
Typhoid Fever	42	48	48	20	53	63	28	25
Tuberculosis (pulmonary)	152	157	163	166	157	143	133	142
Whooping Cough	238	225	93	380	225	201	289	213

A comparison of the morbidity on these diseases for the two preceding months, May and June, with the July record is as follows:

	May	June	July
Cerebrospinal Meningitis	4	2	5
Diphtheria	126	111	133
Encephalitis Epidemic	4	7	3
Measles	625	512	261
Poliomyelitis	1	2	15
Scarlet Fever	495	341	123
Smallpox	12	8	26
Typhoid Fever	15	13	25
Tuberculosis (pulmonary)	137	128	142
Whooping Cough	109	74	213

Cases of Other Reportable Diseases

JULY, 1924

Chickenpox	100
Encephalitis Epidemic	3
German Measles	14
Influenza	3
Malaria	12
Malta Fever	1
Mumps	164
Septic Sore Throat	2
Smallpox	26
Tetanus	1
Trachoma	2
Gonorrhoea	100
Syphilis	130
Total	558

Cases of Occupational Diseases

Lead Poisoning	2
Moderate Wrist Drop	1
Tetanus	1
Total	4

Cases of Certain Reportable Diseases

July, 1924	Population	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com.
State Total	1,502,405	25	261	123	213	133	5	15	142	20	35	553
NEW HAVEN CO.	**451,336**	**6**	**85**	**38**	**53**	**29**	**1**		**50**	**6**	**15**	**98**
New Haven	175,827	2	42	10	27	3			27	4	7	46
Waterbury	100,291	1		6	1	13			11			11
Meriden (city and town)	36,014	1		2	13	1			4	1		12
Ansonia	18,798					3			3		1	4
West Haven	17,354		9	5		4					1	2
Naugatuck	16,130											
Wallingford (town and boro)	12,405						1		1			1
Milford	12,893		24			1						1
Derby	12,279					2						2
Hamden	9,890	1		10	1				2	1	6	7
Branford (town and boro)	6,895		1		2							2
Seymour	7,705		1	1		1						1
Towns under 5,000	24,855	1	8	4	9	1			2			9
FAIRFIELD CO.	**355,984**	**11**	**15**	**24**	**76**	**47**	**2**	**3**	**37**	**5**	**13**	**85**
Bridgeport	162,491	3	3	10	12	25	1		24	5	11	32
Stamford (city and town)	45,157	2	6	1	5	3	1					4
Norwalk	22,292	1		1	2	3		1				10
Danbury (city and town)	21,981	3		4		2		1	3			8
Greenwich (town and boro)	24,674	2	1	1	38	2			3			16
Stratford	15,422			2		2		1	1			
Fairfield	13,950		1		9	2			4		1	
Shelton	10,833					6						1
Westport	5,509		1	1	5				1			4
Towns under 5,000	26,675		3	4	5	2			1		1	10
HARTFORD CO.	**375,816**	**5**	**88**	**44**	**21**	**39**	**2**	**10**	**38**	**6**	**7**	**195**
Hartford	156,169	2	44	14	9	21		6	17	2	5	106
New Britain	66,370	1	1	12	2	6	1	1	14	4	1	25
Bristol (city and town)	23,918			5	3	1			3			12
Manchester	20,561		4	2	2	2			1			5
Enfield	12,629	1	1			3						4
East Hartford	13,274		5				1	2	1			3
Southington (town and boro)	9,331								1			
West Hartford	10,729		13									7
Windsor	6.287		1			2						1
Glastonbury	5,960				3							2
Towns under 5,000	50,588	1	19	11	2	4		1	1		1	30
NEW LONDON CO.	**110,803**	**1**	**12**	**4**	**11**	**10**		**2**	**10**	**3**		**18**
Norwich (city and town)	30,303		1		1	2			4	2		2
New London	28,421		2	1	7	4		1	2			13
Stonington (town and boro)	10,718			1		1			1			
Groton (town and boro)	10,493	1	7									1
Towns under 5,000	30,868		2	2	3	3		1	3	1		2
LITCHFIELD CO.	**79,046**	**1**	**27**	**9**	**40**	**5**			**1**			**34**
Torrington (town and boro)	24,055											
Winchester (inc. Winsted)	9,095											
Plymouth	6,315	1										
Watertown	7,016		2	4	30							15
Towns under 5,000	32,565		25	5	10	5			1			19
WINDHAM CO.	**54,881**		**8**	**1**	**1**				**3**			**36**
Windham (inc. Willimantic)	14,265											1
Putnam (city and town)	8,894		3	1					1			7
Plainfield	8,465		1						1			2
Killingly (inc. Danielson)	8,905											17
Thompson	5,171											
Towns under 5,000	9,181		4		1				1			9
MIDDLESEX CO.	**46,972**	**1**	**23**	**3**	**9**	**1**			**1**			**82**
Middletown (city and town)	22,554		19	1								54
Middletown State Hospital									1			
Towns under 5,000	24,418	1	4	2	9	1						28
TOLLAND CO.	**27,567**		**3**		**2**	**2**			**2**			**10**
Vernon (inc. Rockville)	8,822								1			
Stafford (town and boro)	5,456		1			1						2
Towns under 5,000	13,289		2		2	1			1			8

(For cases of other reportable diseases, see page 215)

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 38 September, 1924 No. 9

This Issue Contains

STANLEY H. OSBORN, M. D., C. P. H., Commissioner.

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CONNECTICUT
HEALTH BULLETIN

Vol. 38 September, 1924 No. 9

Issued Monthly by the
STATE DEPARTMENT OF HEALTH

DIAGNOSIS OF RABIES AT THE LABORATORY

Rabies, or hydrophobia, is an infectious disease of domestic and wild animals that may be conveyed to man. Typical cases may be recognized by the clinical symptoms when observed by an expert, but in doubtful cases a laboratory examination is a valuable aid in the diagnosis. In the May issue of this bulletin was shown the distribution of rabies by months in Connecticut since 1917. During this seven year period 399 cases of rabies were reported, the number of cases in the winter months being greater than during the hot weather season. Figures seem to indicate that the disease is on the decrease in the state, due to the measures taken by the Commissioner of Domestic Animals in quarantining and controlling it by immunization of dogs. Only three of the 28 specimens received during the period August 1, 1923, to July 30, 1924, have proven to be positive for rabies by examination at the Bureau of Laboratories of the State Department of Health.

Diagnosis of rabies at the Laboratory is not a complicated procedure, and the results can be reported in a few hours time. There are three steps in the process; removing the brain from the skull, selecting and staining portions of the brain substance, and searching for Negri bodies under the microscope.

Removing the Brain

When the dog's head is received at the laboratory it is first checked in on the laboratory reports, following the usual custom with all specimens for diagnosis. The head usually arrives, wrapped in cloth, packed in a tin container, sealed, and sent by express, or special delivery. It should be packed in ice, to prevent or retard disintegration of the brain tissue. This precaution should be carefully observed in all cases, since the evidence of rabies in the brain cells may be entirely obliterated if the head has been too long in transit, or if it has not been kept at a low temperature by proper icing. Another precaution to be observed is to avoid piercing, or mutilating the skull, when

killing the dog by shooting or clubbing. If a dog has been shot in the head or the skull smashed with a club the brain tissue may be so badly lacerated as to make an examination impossible.

In handling the dog's head rubber gloves are donned to protect the worker, and the head is chained to a block to facilitate the cutting of the skull. The skin is cut and laid back, the muscle is cut away from the skull and removed, and the skull is sawed on either side of the center to remove a three cornered section. Thus the brain is exposed. This is shown in Figure 1.

Figure 1. Brain Exposed After Section of Skull Has Been Removed

The worker in Figure 1 will be seen removing the three cornered portion of the skull, an attempt being made to cut through the skull so carefully that the brain is not disturbed. Below will be seen the brain in place. With a sharp knife the delicate membrane surrounding the brain is cut, and the

Figure 2. Brain Removed From Dog's Head

brain, intact, is deposited in a sterile petri dish. Figure 2 shows the brain so removed from a dog's head suspected of being rabid. After the brain has been removed the routine procedure is followed to destroy any possible infection from the head, by sterilizing it in the sterilizer at 15 pounds pressure, and 248°F. temperature, before it is discarded. Likewise all instruments and utensils which came in contact with the dog's head are sterilized by boiling.

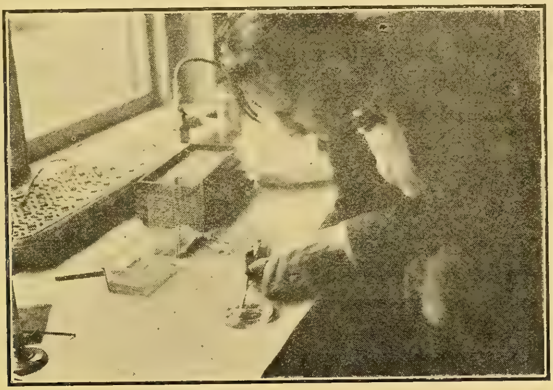


Figure 3 Securing Sections of Brain Tissue for Examination

Selecting Portions of the Brain for Examination Under the Microscope

The brain is now dissected to secure such parts as are known to contain special structures characteristic of rabies. In Figure 3 will be seen the technician so sectioning the brain as to secure several small representative tissue sections. The specific structures are most easily found in that part of the brain known as "Ammon's Horns." This, on dissection, is cut into tiny sections, each one being placed on a clean glass slide. With the aid of another slide the tissue is then spread over the slide in a thin layer.

Figure 4 shows the making of the smears as described. The smears are then immersed in methyl alcohol to fix them to the glass slide, after which they are stained with eosin methylene blue stain. This stain is allowed to remain on the slides for five minutes to allow the tissue to absorb the stain. The excess stain is poured off, and the slide is washed with water, and dried. It is now ready for the final step in the procedure.

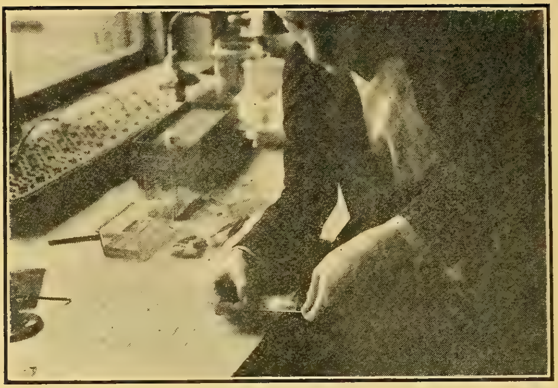


Figure 4. Making the Smears From the Tissue

Searching for Negri Bodies Under the Microscope.

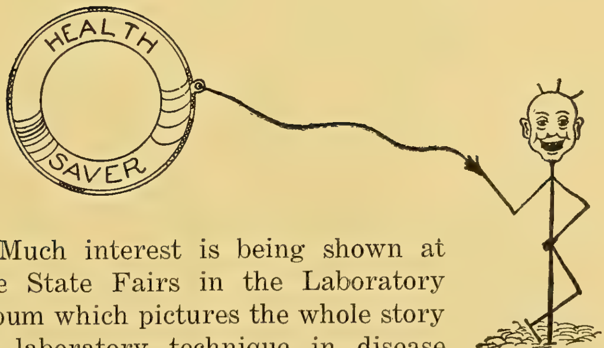
Each of the eight or ten slides so prepared is now examined under the microscope in a search for Negri bodies. These Negri bodies, small, spherical structures, were first reported in 1903 by Negri, as being present in all cases of rabies, in the ganglion cells of different parts of the brain, especially the "Hippocampus Major," or Ammon's Horn. This has since been confirmed by other scientists, and accepted as affording a specific laboratory test for rabies. Thus, when a microscopic search of the slide reveals these Negri bodies, it is positive evidence that the dog, whose head was examined, had rabies. The search must be thorough and persistent before a negative report is made, as treatment to prevent human rabies may be dependent upon the results. Failure to find the Negri bodies is not conclusive evidence that the dog did not have rabies. In many cases it is advisable to make inoculation tests for the presence of the virus or poison of rabies as a check upon a negative microscopic examination. The report of the laboratory, whether positive or negative, is telephoned to the physician or official sending the specimen, immediately on completion of the test. This enables anyone bitten to secure prompt preventive treatment should a positive report be returned. There is no hope of recovery from any kind of treatment given after symptoms of rabies have developed.

Preventive Measures

The Pasteur treatment is a preventive measure. It consists of a series of inoculations with material prepared according to a method devised by Pasteur. To be effective it must be given before the disease develops. The treatment now given is a modification of the original Pasteur treatment, but it still

bears his name. All persons bitten by animals such as cats or dogs, sheep or horses, should have the wound treated by a physician. A dog that has bitten a person should be tied or penned up for ten days and observed by a competent veterinarian to determine if it has rabies.

It should be remembered that rabies is prevalent every month of the year, and the same precautions should be followed during the winter months as in hot weather. Any person bitten should receive local treatment at once, and preventive treatment immediately on a positive diagnosis of rabies either from clinical symptoms or laboratory test. If a suspected dog has been killed, no time should be lost in sending the head to the laboratory for examination, by special messenger if possible. In cases where the clinical evidence is inconclusive it is a wise plan to keep the dog closely confined and under competent observation by a skilled veterinarian in order to permit the disease to develop in the animal as in the early stages of rabies, Negri bodies are not found in the brain. By examining the head too early Negri bodies may not be found even when the dog has rabies.



Much interest is being shown at the State Fairs in the Laboratory album which pictures the whole story of laboratory technique in disease prevention and health protection.

Laboratories

REPORT OF THE LABORATORIES FOR THE MONTH OF AUGUST, 1924

DIAGNOSTIC DIVISION

	+	—	?	Total
Typhoid	8	60	8	76
Paratyphoid A	....	76	....	76
Paratyphoid B	1	75	....	76
Diphtheria:				404
Diagnosis	28	200	....	
Release	48	128	....	
Diphtheria Carriers:				134
Diagnosis	12	122	....	
Release	....	....	....	
Diphtheria Virulence	1	21	....	22
Tuberculosis	20	73	....	93
Syphilis	90	921	88	1099
Colloidal Gold Test on Spinal Fluids	....	17	1	18
Gonorrhoea	12	35	....	47
Pneumonia		....		....
Type I	....			
Type II	....			
Type III	....			
Type IV	....			
Malaria	....	1	....	1
Rabies	....	2	....	2
Feces for Typhoid	....	6	....	6
Urine for Typhoid	....	2	....	2
Feces for Amoeba	....	....	....	....
Haemolytic streptococci	....	156	....	156
Vincent's Angina	4	146	....	150
Special	1	9	1	11
Totals	225	2050	98	2373

CHEMICAL DIVISION

Milk Examination

Number of towns sending samples 20
Number of samples tested 277
Number of samples below fat standard 22
Number of samples showing low refractive index indicating watering 4

Water Examination

Number of towns sending samples 89
Number of samples examined 198
Number of sewage examined 0
Total number of samples examined in the division of chemistry during the month of August 475

CLINICAL THERMOMETERS

Number of thermometers passing test 121
Number of thermometers rejected 55
Total number of thermometers tested.................... *176

*107 of these were certified.

Vital Statistics

MONTH OF JULY, 1924

Births

During July 2,710 reports of births were received in this department, 26 less than the 2,736 reported in 1923. The average number of births reported over the period 1919-1923 is 2,744, and from this it appears that 1924 is 34 below the average, which is a percentage deviation from the average, in a negative sense, of only a bit over one per cent and without significance. In the three years, 1922, 1923 and 1924, it will be observed that the number of births reported run very uniformly, average 2,720 with no wide or marked fluctuations. In the three years, 1919, 1920, 1921 the average is 2,757, but in this interval there is one very wide fluctation of nearly 500 which occurs between 1919 and 1920.

There are 47 towns in the state having populations of 5 000 or more, and of these towns 23, or very nearly 50 per cent, reported more births for 1924 than were registered in 1923. The following are the towns which reported increases of 10 or more and the figures immediately following are the actual increases. Hartford, 47; New Haven, 15; New London, 10; Norwalk, 35; Norwich, 26; Stamford, 20; Torrington, 23.

During the month 87 stillbirths were reported, 4 less than the 91 recorded in 1923. Combining the living and stillbirths the total for 1924 is 2,797, and the 87 stillbirths constitute 3.11 per cent of this total. In 1923 the corresponding figures were 2,827 total births of which the 91 stillbirths constituted 3.22 per cent.

Deaths

The number of deaths reported during the month amounted to 1,179, which is the lowest number to be registered in the last 6 years and yields the very low annual death rate of 9.4. This year is 21 below the figures for 1923 when 1,200 deaths were recorded. The average number of deaths over the period 1919-1923 is 1,244 and from this it appears that 1924 is 65 below the average. It will be observed from the six year study of the month, given elsewhere in this Bulletin, that July runs very uniformly, with small deviations from year to year, and with a low mortality rate. In general, July is a month of favorable mortality.

In order that a comparison may be effected between 1924 and 1923, the following table has been prepared to set forth the mortality experienced in certain diseases for the two years.

CAUSE OF DEATH	1924	1923	INCREASE	DECREASE
Diseases of the Heart	162	178	....	16
Epidemic Encephalitis	4	4	....	....
Pneumonia Undefined	1	2	....	1
Typhoid Fever	5	5	....	....
Measles	2	2	....	....
Scarlet Fever	0	0	....	....
Whooping Cough	2	5	....	3
Diphtheria	9	8	1	....
Influenza	1	5	....	4
Tuberculosis, Pulmonary	86	86	....	....
Tuberculosis, Other forms	16	12	4	....
Cancer	125	111	14	....
Cerebrospinal Meningitis	3	7	....	4
Poliomyelitis	1	1	....	....
Pneumonia, Lobar	13	21	....	8
Pneumonia Broncho	23	23	....	....
Diarrhoea and Enteritis, (Under 2)	28	23	5	....
Puerperal Diseases	9	8	1	....
Accident	116	102	14	....
Suicide	12	20	....	8
Homicide	3	4	....	1
Other Causes	558	573	....	15
Totals	1,179	1,200	39	60

An encouraging decrease in Diseases of the Heart is noted. There also was a decrease in Lobar Pneumonia which has been characteristic of the year so far. Of the increases, those attributed to Cancer and Accidents are the most pronounced. Of the Accidental deaths 18 were due to automobile accidents. This is 15 less than the 33 reported in July, 1923.

It will be noted that the month was below the total mortality experienced in 1923. The total accumulated decrease so far of 1924 below 1923 is 1,170.

Infant Mortality

The Infant Mortality rate of 56.7 deaths of infants under one year of age per 1,000 living births is slightly higher than the rate in 1923. However, a comparison of 1924 with the past six years will show that the rate is far from unfavorable using an average as a standard of comparison. In these six years, only 1923 shows a lower rate.

Marriages

During the month 906 marriages were reported. There is a long list of towns, however, from which no report has been received and no doubt this number of marriages will be

sensibly affected, when delinquent reports have been received. The same remarks apply with less force to the Births and Deaths. The marriages received so far are 63 less than the 969 reported in 1923 and 74 less than the average of 980 over the five year period 1919-1923.

Six Year Study—July, 1919-1924

CONNECTICUT	1919	1920	1921	1922	1923	1924
BIRTHS *Birth Rate*	2437 19.9	2924 25.2	2910 24.6	2714 22.5	2736 22.3	2710 21.6
MARRIAGES *Marriage Rate*	963 7.9	1091 9.4	1016 8.6	863 7.2	969 7.9	906 7.2
DEATHS *Death Rate*	1258 10.3	1274 11.0	1280 10.8	1208 10.0	1200 9.8	1179 9.4
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	167 13.3	172 13.5	133 10.4	127 10.5	119 9.9	109 9.2
DEATHS UNDER 1 YEAR *Rate per 1000 births*	205 72.4	224 78.7	220 77.7	183 68.7	142 55.5	146 56.7

*Includes Typhoid Fever. Measles. Scarlet Fever. Whooping Cough. Diphtheria Tuberculosis Pul., Cerebrospinal Men., Poliomyelitis, Influenza.

Towns from which no report has been received

July, 1924*

BIRTHS	MARRIAGES	DEATHS
Ashford	Brooklyn	Bloomfield
Columbia	Columbia	Columbia
Cornwall	Cornwall	Cornwall
Madison	Durham	Madison
Mansfield	Essex	Mansfield
Marlborough	Madison	North Canaan
Milford	Mansfield	Somers
Plainville	Milford	Warren
Pomfret	Monroe	Waterford
Redding	Plainville	
Somers	Pomfret	
Warren	Saybrook	
	Tolland	
	Warren	
	Washington	
	Waterford	

*This bulletin goes to press the 5th of each month.

Births, Marriages and Deaths

July Statistics 1924	Population Based on U. S. Census Est. as of July 1, 1924	TOTALS: Births	Still Births	Marriages	Deaths	DEATH RATES: All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	AGE GROUPS: Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,502.405	2710	87	906	1179	9.4	0.7	56.7	146	54	384
Ansonia	18,798	21	2	9	9	5.7					4
Branford	6,895	8	3	4	6	10.4		114.3	1		
Bridgeport	162,491	289	4	104	111	8.2	1.0	36.7	10	9	26
Bristol	23,918	44		19	8	4.0	0.5	43.3	2		5
Danbury	21,981	41	2	12	27	14.7	1.6	67.9	3	2	8
Derby	12 279	35	2	4	11	10.8		137.2	5	1	2
East Hartford	13,274	20		11	6	5.4	0.9	87.0	1		1
Enfield	12,629	31	1	17	9	8.6	1.0				4
Fairfield	13,950	21	1	6	9	7.7	0.9			1	3
Glastonbury	5,960	7		2	3	6.0		142.8	1		1
Greenwich	24,674	39	1	54	21	10.2	0.5	82.3	3		5
Groton	10,493	12		9	6	6.9		74.1	1		3
Hamden	9,890	18		3	8	9.7					6
Hartford	156,169	386	12	123	135	10.4	0.5	68.2	22	9	29
Killingly	8,905	12	1	6	3	4.0				1	1
Manchester	20,561	42	2	11	8	4.7		29.3	1		5
Meriden	36,014	50	1	21	25	8.3	0.3	15.7	1	1	7
Middletown	22,554	49	1	9	21	11.2				1	7
Milford	12,893				7	6.5					5
Naugatuck	16,130	13		11	9	6.7		131.1	2		2
New Britain	66,370	133	6	40	39	7.1	0.4	50.7	7	3	10
New Haven	175,827	368	8	104	172	11.7	0.5	85.0	28	8	52
New London	28,421	72	3	20	31	13.1	0.4	95.6	6		5
Norwalk	29,292	73		20	31	12.7	0.4	61.4	3	2	16
Norwich	30,303	79	5	24	32	12.7	0.4	30.3	2		8
Plainfield	8,465	9		6	2	2.8		75.0	1		1
Plymouth	6,315	10	1	4	5	9.5		235.2	2		1
Putnam	8,894	19	1	9	12	16.2	1.3	243.6	4		5
Seymour	7,705	11	1	1	7	10.9		107.1	1		1
Shelton	10,833	11		5	12	13.3				1	1
Southington	9,331	18		3	2	2.6					1
Stafford	5,456	13		2	7	15.4	2.2	83.9	1		4
Stamford	45,157	106	2	32	27	7.2	0.3	44.9	4		11
Stonington	10,718	11		9	4	4.5	1.1				2
Stratford	15,422	17		6	7	5.4	0.8	55.2	1		2
Thompson	5,171	2		3	5	11.6	2.3	104.3	1		1
Torrington	24,055	49	2	9	12	6.0		160.0	6	1	2
Vernon	8,822	16		4	5	6.8		91.6	1		3
Wallingford	12,405	13	1	6	6	5.8	1.0				4
Waterbury	100,291	198	10	41	75	9.0	1.4	64.0	12	6	16
Watertown	7,016	2		2	2	3.4				1	1
West Hartford	10,729	13		6	9	10.1	1.1	68.2	1	1	1
West Haven	17.354	41	1	16	20	13 8		32 8	1		5
Westport	5,509	3	1		3	6.5					1
Winchester	9,095	19	2	7	12	15.8		109.5	2	1	6
Windham	14,265	31		7	15	12.6	1.7	33.2	1	1	4
Windsor	6,287	6		2	6	11.5	1.9			1	3
Towns under 5,000	212,439	229	10	83	177	10.0	0.5	32.2	8	3	89

for the month of July, 1924

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cere-Spinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis un 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
162	4	1	5	2	......	2	9	1	86	16	125	3	1	13	23	28	9	116	12	3	433	215
1	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	2	......	......	......	1
15	1	......	1	......	......	......	2	......	12	3	13	......	......	2	2	1	......	14	......	......	47	12
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......
3	......	......	......	......	......	......	......	......	2	......	2	......	......	......	......	......	1	6	......	......	9	7
1	......	......	......	......	......	......	......	......	......	......	1	......	......	1	1	3	......	2	......	......	7	3
......	......	......	......	......	......	......	......	......	1	......	1	......	......	......	......	......	......	2	......	......	......	1
1	......	......	......	......	......	......	......	......	1	......	1	......	......	......	......	......	......	2	......	......	......	......
1	......	......	......	......	......	1	1	......	1	......	1	......	......	......	......	......	......	......	......	......	......	1
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1
4	......	......	1	......	......	......	......	......	1	1	2	......	......	......	1	......	......	3	......	......	7	6
2	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	1	......	......	......
2	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	......	......	......	......	......
17	2	......	......	1	......	......	......	1	4	2	14	3	......	......	2	7	3	10	2	1	74	23
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	3	......	......	......	......	......	......	1	......	......	2	......
4	......	......	......	......	......	......	......	......	3	1	4	......	......	......	......	......	......	2	......	......	14	7
4	......	......	......	......	......	......	......	......	1	1	3	......	......	......	1	......	......	1	1	......	16	11
2	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1	......	......	......	......	......	2	3
1	......	......	......	......	......	......	......	......	......	1	1	......	......	......	......	1	......	2	......	......	......	......
6	......	......	......	1	......	......	......	......	......	......	5	......	1	......	......	2	1	2	1	......	11	3
22	1	......	2	......	......	......	......	......	2	3	23	......	......	4	4	8	1	14	3	......	86	18
4	......	......	......	......	......	......	......	......	1	1	3	......	......	......	1	......	......	3	......	......	14	8
2	......	......	......	......	......	......	2	......	1	......	6	......	......	......	1	......	......	3	......	......	8	7
5	......	......	......	......	......	......	......	......	7	1	3	......	......	......	......	1	......	5	......	......	15	7
......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	1	......	1	......	......	......	......	......	......	......	......	......	5	3
1	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	1	......	7	......	2	......	......	......	1	......	......	1	......	......	7	7
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	1	......	......	......	......	......	1	......	......	......	......	......	3	1
5	......	......	......	......	......	......	1	......	1	......	......	......	......	......	1	......	......	4	......	......	13	6
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	1	......	3	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	2	......	......	......	2
1	......	......	......	......	......	......	......	......	......	......	1	......	......	1	......	1	......	......	......	......	4	......
3	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	1	......	......	1	......
3	......	......	......	......	......	1	......	......	9	1	7	......	......	......	1	2	2	9	1	1	30	9
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	1	......	2	......	......	......	......	1	......	1	......	......	6	4
2	......	......	......	......	......	......	......	......	11	......	3	......	......	......	......	1	......	......	......	......	12	12
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	2	2
2	......	......	......	......	......	......	......	......	......	1	......	......	......	1	......	......	......	1	1	......	6	1
2	......	......	......	......	......	......	......	......	1	......	1	......	......	......	......	......	......	1	......	......	2	......
1	......	......	......	......	......	......	1	......	......	......	3	......	......	......	......	......	......	......	......	......	......	......
25	......	1	......	......	......	......	1	......	16	......	8	......	......	2	5	......	1	20	2	1	29	49

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF AUGUST, 1924

(as compared with previous years)

A comparison of the daily morbidity reports received during the month of August, 1924, with the corresponding month for the years 1919, 1920, 1921, 1922 and 1923.

Certain Diseases	Average 1919-1923 for Aug.	Mean 1919-1923 for Aug.	1919	1920	1921	1922	1923	1924
Cerebrospinal Meningitis ..	6	3	3	10	1	12	3	8
Diphtheria	134	130	130	162	157	97	124	91
Encephalitis Epidemic (Not reportable till 1921)				1	5	6	5	6
Measles	93	102	58	102	59	131	114	38
Poliomyelitis	11	9	3	5	21	9	18	36
Scarlet Fever	81	82	67	104	82	66	87	81
Smallpox	3	......	......	......	......	1	12	1
Typhoid Fever	68	63	73	63	96	55	51	44
Tuberculosis (pulmonary)	143	145	127	145	165	145	133	127
Whooping Cough	211	149	47	488	140	149	229	148

A comparison of the morbidity on these diseases for the two preceding months, June and July with the August record is as follows:

	June	July	August
Cerebrospinal Meningitis	2	5	8
Diphtheria	111	133	91
Encephalitis Epidemic	7	3	6
Measles	512	261	38
Poliomyelitis	2	15	36
Scarlet Fever	341	123	81
Smallpox	8	26	1
Typhoid Fever	13	25	44
Tuberculosis (pulmonary)	128	142	127
Whooping Cough	74	212	148

Cases of other Reportable Diseases

AUGUST, 1924

Chickenpox	15	Smallpox	1
Dysentery (Bacillary)	7	Tetanus	4
Encephalitis Epidemic	6	Trichinosis	1
German Measles	2	Chancroid	1
Influenza	3	Gonorrhoea	94
Malaria	9	Syphilis	73
Mumps	30		
Paratyphoid Fever	2	Total	254
Septic Sore Throat	6		

Cases of Occupational Diseases

Dermatitis	4
Total	4

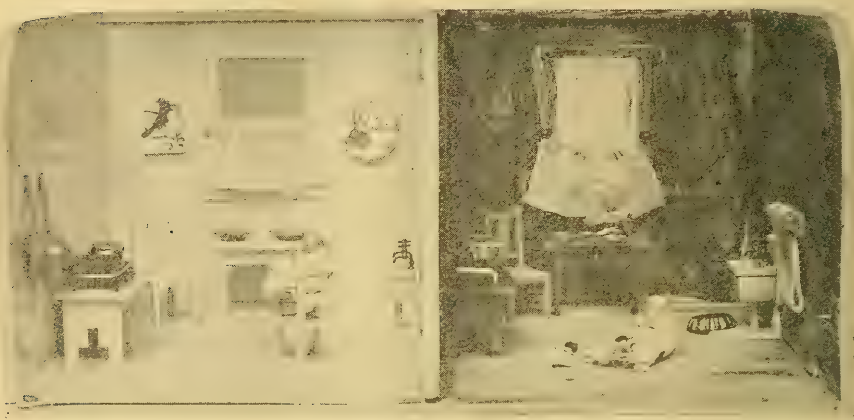
Cases of Certain Reportable Diseases

August, 1924	Population Based on U. S. Census Est. as of July 1, 1924	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Cerebrospinal Meningitis	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com
State Total	1,502,405	44	38	81	148	91	8	36	127	10	10	254
NEW HAVEN CO.	**451,336**	**19**	**19**	**18**	**58**	**25**	**2**	**4**	**46**	**5**	**3**	**85**
New Haven	175,827	16	16	5	33	7	1		25	3	2	58
Waterbury	100,291			6	4	8	1	1	8		1	5
Meriden (city and town)	36,014				7	2			5			5
Ansonia	18,798				2	2			1			4
West Haven	17,354			3		1			1	1		4
Naugatuck	16,130	1										
Wallingford (town and boro)	12,405	1				2		1				1
Milford	12,893		1		1							2
Derby	12,279		2			2						
Hamden	9,890			2								3
Branford (town and boro)	6,895				1				3			
Seymour	7,705											
Towns under 5,000	24,855	1		2	10	1		2	3	1		3
FAIRFIELD CO.	**355,984**	**12**	**3**	**19**	**24**	**28**	**2**	**6**	**35**	**1**	**2**	**49**
Bridgeport	162,491	3	2	15	10	16		4	23	1	1	27
Stamford (city and town)	45,157	6		2	5	3	1		2			1
Norwalk	22,292	1				1		1				3
Danbury (city and town)	21,981			2		3			3			7
Greenwich (town and boro	24,674	1			4				3			5
Stratford	15,422				1	1					1	1
Fairfield	13,950	1			4	3						1
Shelton	10,833					1			1			
Westport	5,509							1	1			1
Towns under 5,000	26,675		1				1		2			3
HARTFORD CO.	**375,816**	**5**	**13**	**21**	**32**	**18**	**2**	**23**	**31**	**2**	**3**	**84**
Hartford	156,169	1	6	5	14	13		11	15	1	2	51
New Britain	66,370	1		8	2	2	1	2	8	1		11
Bristol (city and town)	23,918			4	2			1	3			
Manchester	[illegible]				5	2						6
Enfield	[illegible]	1					1		1			
East Hartford	13,274		3	1					1		1	2
Southington (town and boro	9,331				5							1
West Hartford	10,729		2	2	2			1				4
Windsor	6,287							2				1
Glastonbury	5,960				1			2	1			5
Towns under 5,000	50,588	2	2	1	1	1		4	2			3
NEW LONDON CO.	**110,803**	**3**		**4**	**8**	**5**	**1**	**1**	**4**	**2**		**16**
Norwich (city and town)	30,303			3		3			3			2
New London	28,421	1			1		1	1	1	2		7
Stonington (town and boro)	10,718	1		1	6							
Groton (town and boro)	10,493					1						7
Towns under 5,000	30,868	1			1	1						
LITCHFIELD CO.	**79,046**	**3**		**17**	**11**	**6**		**2**	**1**		**2**	**13**
*Torrington (town and boro)	24,055	2		14		6					2	4
Winchester (inc. Winsted)	9,095											1
Plymouth	6,315											
Watertown	7,016											
Towns under 5,000	32,565	1		3	11			2	1			8
WINDHAM CO.	**54,881**	**2**	**1**	**2**	**1**	**2**			**2**			**1**
Windham (inc. Willimantic)	14,265					1			1			
Putnam (city and town)	8,894											
Plainfield	8,465	2	1		1							1
Killingly (inc. Danielson)	8,905											
Thompson	5,171											
Towns under 5,000	9,181			2		1			1			
MIDDLESEX CO.	**46,972**		**2**		**14**	**4**	**1**		**7**			**5**
Middletown (city and town)	22,554											
Middletown State Hospital									5			1
Towns under 5,000	24,418		2		14	4	1		2			4
TOLLAND CO.	**27,567**					**3**			**1**			**1**
Vernon (inc. Rockville)	8,822					1						
Stafford (town and boro)	5,456											
Towns under 5,000	13,289					2			1			1

(For cases of other reportable diseases, see page)

*Delayed Reports

HEALTH WORK IN MINIATURE
ON DISPLAY IN HEALTH TENT AT STATE FAIRS



Which would you choose—Cleanliness or Dirt

A Well Child Conference in Progress

The Public Health Nurse takes a hand in the Home

M. H. No. 3

MENTAL HYGIENE

Supplement to September Health Bulletin, Vol. 38, No. 9, 1924

Connecticut State Department of Health

Stanley H. Osborn, M. D., Commissioner

Hartford, Conn.

STATE DEPARTMENT OF HEALTH

(as of September 1, 1924)

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SYPHILIS AND MENTAL DISORDER.

Syphilis is a well-known infectious disease caused by the germ or organism Treponema pallidum. It is acquired by direct contact, with infected persons or things, (frequently during illicit sexual intercourse), and runs a chronic course with local and general manifestations. The course of the disease is usually divided into three stages, not always well defined. The first stage consists of a sore, called a chancre, which appears at the point of initial infection. The second stage is characterized by the general invasion of the body by the infecting organism, indicated by swelling of the lymph nodes, by eruptions in the skin and mucous membranes and occasionally by slight fever and anemia. The third stage is characterized by localized growths called gummata which frequently break down and form ulcers in various parts of the body. Diseases of the nervous system such as general paresis and locomotor ataxia have sometimes been described as the fourth stage.

Syphilis was probably not recognized as a definite disease until the last of the fifteenth century. However, there is evidence that it existed in prehistoric ages, as bones have been discovered in various parts of the world exhibiting changes identical with those recognized now in bones positively known to be syphilitic. In the ancient literature of the Chinese and Japanese, according to Buret, not only were many of the manifestations of syphilis known, but the value of mercury was recognized, which even now is one of our most important antisyphilitics. Similar reference to the connection between disease of the genital organs resulting from sex indulgence and lesions observed on the trunk, limbs and organs of sense have been observed in certain of the Egyptian papyri and ancient records of India. However, it was not until the return of Columbus' sailors from the New World, at the end of the fifteenth century, that syphilis became epidemic. The epidemic became more marked during the campaigns in Italy and gradually spread into France, Switzerland, the Rhine Provinces and other parts of Europe. Each country where it appeared disclaimed paternity, pointing to its neighbor as the guilty one. Consequently it was called by various countries the American disease, the French disease, the Italian disease, the disease of the Christians, of the Turks, of the Portugese, of the Germans, the Persians, and the Poles. It is possible that syphilis was brought to Europe after the discovery of the New World but it is more likely that the epidemic occurring at this time was merely an awakening to activity of germs of disease which up to that time had passed

unnoticed because of the limitations and the mildness of the manifestations. Whatever its origin, it seems that in this twentieth century, there is no part of the civilized world where syphilis may not be encountered.

Syphilis can cause destructive changes in any part of the body. Frequently it seriously involves the nervous system, causing chronic inflammation in the membranes covering the brain and spinal cord, degenerative changes in the blood vessels supplying these parts, the formation of small tumors called gummata, and the actual destruction of nerve cells. These changes usually are manifested several years after acquiring the disease but they have been observed in the first year after infection.

General Paresis

General paresis has aptly been spoken of as "a disease of syphilization and civilization." It is a chronic mental disorder due to direct syphilitic invasion of the brain, characterized by progressive intellectual deterioration and motor weakness or even paralysis of the body, and ending in death after variable periods of time, usually three to five years. It is the most clearly differentiated of all mental disorders in cause, symptoms, and tissue changes. Haslam, a pharmacist, gave a fairly accurate description of it in 1822. Calmeil in 1826 established its recognition as a disease entity. For many years its cause was disputed, being ascribed to sexual excesses, masturbation, alcoholism, heredity and in fact nearly everything imaginable. Sandras spoke of it in 1852 as a result of syphilis but it was not until 1905 when Sehaudinn isolated the Treponema pallidum, that the question of its cause was definitely settled. In 1913 the demonstration of the Treponema pallidum in the brain of a general paretic by Noguchi and Moore established the cause beyond all possible argument. It is seemingly seen more often in the intellectual and highly developed, probably occurs four times more often in men than in women, appears usually between the ages of thirty and sixty, most frequently between thirty-five and forty-five. Probably less than five per cent of syphilitics develop general paresis. Why all syphilitics do not develop it is not yet definitely established. It is possible that in some people there is inherited or acquired susceptibility of the nervous tissue to damage, or it may be that there are strains of Treponema pallidum with special affinity for the nervous system or with varying degrees of virulence, or again the variable factor of bodily abuse through alcoholism or sexual excesses, etc., may account for it.

The symptoms of general paresis may be divided into those of the prodromal stage, the stage of full development, and the terminal stage. **It is in the prodromal, neurasthenic or pre-**

paretic stage that diagnosis is extremely important, as many of the unfortunate and distressing acts of the paretic may be avoided by careful supervision by the physician and prompt commitment to an institution. Unfortunately it is in this early stage that diagnosis is hard and because of this it is comparatively infrequent that general paresis in its prodromal stage is recognized. With but few exceptions, the patient is frankly psychotic or has experienced one of the several paretic accidents, when brought to the attention of the profession, and by this time the development of paresis is well under way. It is only by the most careful questioning of those who have been in close association with the patient, that the early indications of deviations from the normal are discovered. These early signs are usually so indefinite, of such slight degree and so apparently unimportant that no particular significance is attached to them until the paretic explosion has occurred and the time for reflection has come.

The Initial or Prodromal Stage—The onset of paresis is insidious, extending over months or years. It may be heralded by a group of vague symptoms, or by only one, to which, however, others are gradually added, resulting eventually in the so-called preparetic stage. The components of this syndrome are in general obscure variable and elusive, but certain phenomena occur so consistently, that they appear characteristic to the observer. These phenomena may be considered under the following heads:

Changes of affect or mood
Alterations in the ethical sphere
Reduction of the mental capacity
Occasional physical signs

Changes of affect or mood are frequently exhibited as accentuations of some particular personality characteristic such as egoism, inadequacy, pessimism, etc., and consequently they are usually overlooked. Probably the best example of the above is the exaggeration of natural irritability in individuals of otherwise excellent personality. Such irritability is the most commonly observed of these changes. Others are mild depression, introspection and apprehension or perhaps their extreme opposites—euphoria, optimism, etc. Rapid changes of mood, happiness to sorrow, or, perhaps, kindliness to cruelty, demonstrate the instability of the paretic affect. Although episodes of brief emotional tension and temporary losses of self control are more commonly seen in later stages, they do occur in the prodromal stage.

The alterations in the ethical sphere are the precursors of the gross conduct disorders which occur in the later stages and they are closely linked to the changes of affect. They bring

about the petty difficulties which arise between the paretic and his household or business associates. They consist of indifference to and neglect of responsibilities, disregard of ordinary conventions, slovenliness in dress, indecorous conduct, and mild moral lapses in those who formerly were punctilious and conscientious in all respects.

The reduction of mental capacity covers a widespread intellectual field and at this early stage, while cortical destruction is still negligible, is to a large extent, if not entirely, due to the factor of fatigue, to which the paretic is so prone. This tendency toward early fatigue is consistently found in early general paresis and gives rise to the so-called "neurasthenic" state, which superficially so closely resembles true neurasthenia. Memory, attention, and judgment, the disorders of which are most important, are impartially affected. Characteristic amnesia exists usually as the slight effacement or dimming of impressions recently acquired, but episodes of transitory forgetfulness also do occur. The latter cause the appearance of absentmindedness or even of slight confusional states, during which the patient is unable to recall the number of his house or the name of the street on which he resides or how to knot his scarf. Attention is weakened, it wanders, interest wanes, various stimuli fail to make their due impressions and as a result the paretic probably fails to reach his mental objective. This is largely the cause of the paretic's lowered efficiency in his work, especially if that be mental work. The keenness of judgment is blunted and the finer shades of discrimination are lost, causing a considerable handicap, under which the business or professional man, charged with responsibility, has to work. This defect even at this early period is often sufficient to result in serious reverses, financial or otherwise. More often, however, the patient simply becomes less successful in his vocation. In men performing a low grade of work or men of low intellectuality it would naturally not be observed.

The physical signs occasionally met with are significant. They consist of transitory muscular paralyses or weaknesses, especially of the face, ocular muscles and extremities; the reaction of the pupils is irregular or sluggish and rarely may show actual rigidity and inequality. There are also slight incoordination in finer movements, over-active reflexes, and various tremors. Any great physical disturbance, common in later stages, may be seen, but only very rarely.

Serologic examination of the blood and spinal fluid will occasionally fix the diagnosis. The Wassermann test of the blood will usually be positive, indicating however, nothing more than previous syphilitic infection. The spinal fluid will

occasionally give typically paretic findings throughout, in Wassermann test, especially in large dilutions, collodial gold curve, globulin test and cell count, but more often at this stage it will be only suggestive or even negative.

The Stage of Full Development—Symptoms of the fully developed stage are characteristic and are in the main an exaggeration of the symptoms of the prodromal stage with some additions. There is a profound intellectual decay, memory is progressively affected and is essentially incurable. Consciousness is disturbed. There is more or less complete loss of orientation as to time, place, and persons. Attention is aroused and attained with difficulty. Association of ideas is sluggish. The mood is variable; irritability with sudden explosions of anger predominates, although there may be depression or indifference. The moral sense and regard for conventionalities disappear. Judgment is greatly reduced. The patient lacks insight into his condition and does not appreciate the most glaring contradictions. Delusions are common, grandiose, melancholy or persecutory. The reactions are impulsive and often violent. Hallucinations and illusions are only occasionally encountered. At any time symptoms may disappear for months, constituting the so-called remission so characteristic of general paresis.

There are four main clinical types of this mental disorder which can be distinguished at this stage.

In the *simple dementing type* there is progressive mental deterioration. The evolution is rapid and there are few remissions.

The *expansive or so-called classical type* is not as frequently encountered as many older authors have led us to believe. It is characterized by euphoria, excitement, loquaciousness, quick emotional changes, and delusions of grandeur. There are ruinous deeds, misdemeanors and even crimes. The evolution is slow, remissions are frequent. The duration is usually more than three years.

In the *excited types* there is confusion, complete loss of orientation and marked excitement closely approaching the degree encountered in mania. There are many incoherent delusions and violent reactions. There is usually considerable disturbance of nutrition. The excitement may be very great and in a few weeks death results from exhaustion.

In the *depressed type,* there is depression, and inhibition with many melancholy delusions. The evolution is rapid, death often occurs early from cachexia.

Certain physical signs are common to all types of general paresis. The most outstanding physical sign is pupillary disorder, the beginning of which was noted in the prodromal

stage. One or both pupils may become irregular; the pupils may be unequal and there may be loss of the light reflex. There is usually motor incoordination, easily demonstrated by placing the patient in Rhomberg position. Disturbances of speech are very characteristic and may be represented by drawling, tremulous or slurring speech, by omissions of one or more syllables or repetition of syllables. The hand writing is irregular and tremulous. There is slowly progressing general motor weakness. Seizures resembling epilepsy and apoplexy are quite common. There may be exaggeration of the deep reflexes, especially the patellar and Achilles, or if the condition is combined with degeneration of the posterior column of the spinal cord there may be loss of the tendon reflexes. The blood and spinal fluid present characteristic findings, Wassermann test of the blood being positive in approximately one hundred per cent of the cases. Wassermann test of the spinal fluid is practically always positive. The collodial gold curve is typically paretic and is indicated by 5555543200. Globulin test is positive and there is lymphocytosis.

The Terminal Stage—The terminal stage of paresis is represented by most severe intellectual deterioration in which the patient leads a more or less vegetative existence often hopelessly paralyzed and cachectic. Death ensues after an average time of from three to five years after onset.

Juvenile General Paresis—Juvenile general paresis is a disorder occurring in children or young adults. It is comparatively infrequent. It has the same etiology and pathology as general paresis. There are perhaps in infancy and early childhood the usual signs of congenital syphilis. Frequently there is normal development until the age of five to ten, at which time progressive intellectual deterioration sets in pursuing the same course as does adult general paresis.

Psychosis with Cerebral Syphilis

The other type of syphilitic mental disorder, psychosis with cerebral syphilis, is much less common than general paresis. Cerebral syphilis in general may be said to include all syphilitic involvements of the brain other than general paresis. The onset is usually one to fifteen years after infection. The early stages are characterized by headache, dizziness and perhaps occasional vomiting. Cranial nerve palsies, optic neuritis, hemiplegia, convulsions and aphasia are the usual evidence of nerve involvement. The mental symptoms consist of stupor and confusion or delusional states with or without hallucinations. Mental deterioration occurs with the progress of the disease but is less marked than in general paresis.

The Prevalence of Syphilitic Mental Disorders

Syphilis is one of the most important of the essential causes of mental disease. One can conservatively estimate that it is the direct cause of over 10 per cent of the first admissions to mental hospitals throughout the country. The National Committee for Mental Hygiene estimated from statistics of 88 State Hospitals for the year of 1921, that 16.31 per cent of male first admissions and 5.24 per cent of female first admissions to these hospitals were on account of syphilis. This committee also estimated that in a group of four State Hospitals serving New York City one out of every five male first admissions was on account of syphilis.

Statistics for Connecticut show that for the year ending June 30, 1922, out of 457 male first admissions to State Hospitals, 57 or 12.4 per cent were suffering with syphilitic mental disorder.

The eradication of syphilis as a cause of mental disorder primarily depends upon the prevention of syphilis as a communicable disease and properly lies within the domain of another division of this Department of Health. But prophylaxis lies also within the field of mental hygiene, particularly in dealing with the patient immediately after the infection has been acquired. Although only a small percentage of syphilitics develop syphilitic mental disorders, every infected person must be considered a potential case. If treatment is postponed until signs of mental disorder appear the outlook is practically hopeless, although even in this case intensive antisyphilitic treatment should be continued or immediately instituted with the faint hope of obtaining a cure or at least of producing longer and more frequent remissions.

But the real problem of prophylaxis consists in securing prompt and adequate treatment for the physical condition and also the education of the patient to the need of a hygienic manner of life. At this period if the patient cooperates and the physician is intelligent and conscientious, the possibility of warding off syphilitic mental disorder is good.

A FEW FACTS

In the United States

235,000 are in mental hospitals

$35,000,000 is spent annually for their care.

In Connecticut

5,700 are inmental hospitals

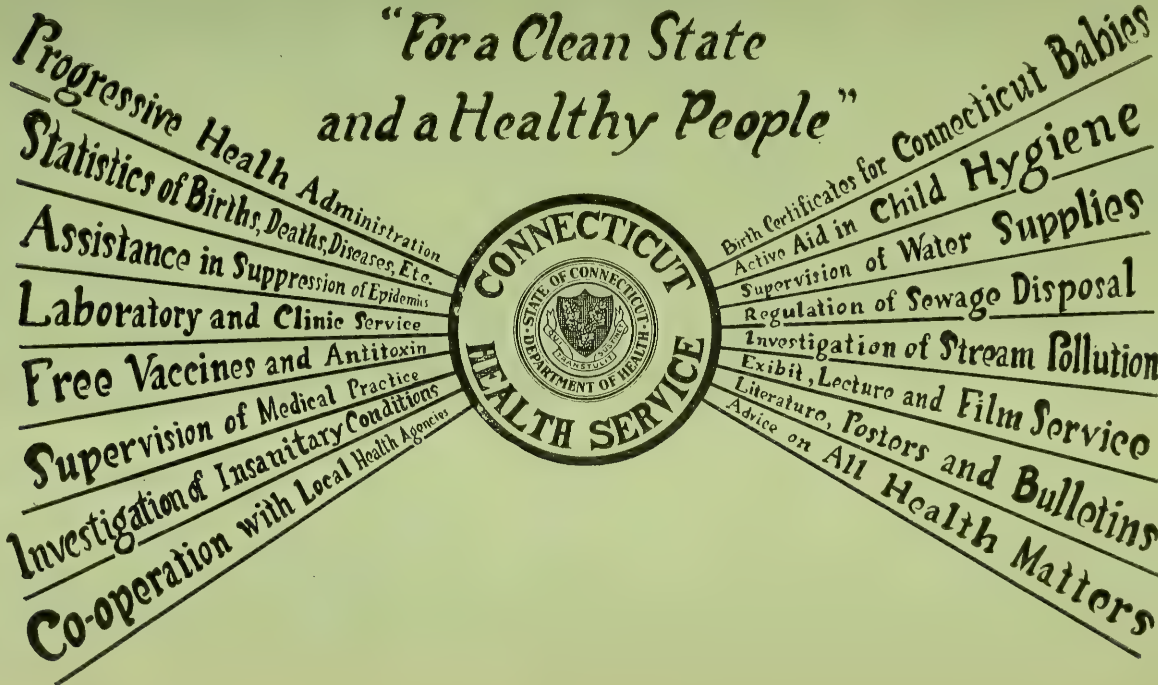
$2,000,000 is spent every year for their care.

These figures are increasing

CONNECTICUT'S MENTAL HEALTH CLINICS

for children and adults
if consulted in time will
help reduce these numbers.

The Monthly Health Bulletin published by Connecticut State Department of Health will be sent to any resident of Connecticut on request.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State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 38 October, 1924 Vol. 10

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STANLEY H. OSBORN, M. D., C. P. H., Commissioner.

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CONNECTICUT
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STATE DEPARTMENT OF HEALTH

IS CONNECTICUT FREE FROM MALARIA?

Malaria, or "chills and fever" as it has popularly been called is prevalent in certain states, notably the southern and southeastern states. These states are known to have many swamps and swampy lands and so afford excellent breeding places for mosquitoes among which the "anopheles" variety is the chief offender since it has a disease carrying record. In 1898 the brilliant work of Sir Roland Ross in India gave convincing proof of the guilt of these anopheles mosquitoes in transmitting malaria. This was eighteen years after it had been discovered that malaria was caused by parasites which feed on red blood corpuscles. These parasites, belonging to the family "Plasmodium," are of three known varieties, "vivax" causing tertian malaria, "malariae" causing quartan malaria, and "falciparum" causing the dreaded aestivo-autumnal malaria best known in the tropics. These parasites while feeding and growing to maturity on red blood corpuscles of human beings depend upon a certain stage of their development in the bodies of the anopheles mosquitoes. Sucked up with a full meal of blood from a malaria patient the parasites go through a series of changes in the body of the mosquito and pass into its salivary glands from which they are transmitted to another patient's blood with the next bite. Thus the vicious circle is completed from man to man through the mosquito, the malaria parasite depending upon the two hosts for its full development.

The full story of the life cycle of malaria parasites will not be attempted in this article, nor the part that malaria has played in the past. The chief interest here is centered not in the field, but in a sample of the human blood where a search may reveal the offending parasite. This leads us to the laboratory. The parasites arrive in blood smears which have been made from a drop of blood from a patient suspected of having malaria. This is obtained by a quick stab with a sterile needle into the lobe of the ear, or little finger.

This drop of blood is caught on the edge of a sterile glass slide which has been sent out from the laboratory in the malaria outfit for this purpose.

Figure 1. Securing the Sample of Blood from a Malaria Patient

The malaria outfit consists of two clean glass slides in a flat tin container inserted in an inner envelope together with the record blank enclosed in a mailing envelope. The drop of blood from the patient is smeared on these slides which are carefully packed and returned to the laboratory. The procedure here is a very simple one. Following the usual recording of specimens for laboratory identification, the blood smears are stained with Wright's stain, after which they are rinsed with distilled water and dried. The staining is shown in Figure 2.

Figure 2. Staining Blood Smears to Identify Malaria Parasites

After the slides have been stained a search under the microscope will reveal the malaria parasites, appearing as minute structures within the red blood corpuscle. Presence of the parasites in the blood corpuscle is conclusive evidence that the patient from whom the drop of blood was secured had malaria. This is so stated on the record blanks which accompanied the specimen, and a duplicate copy is returned to the physician sending the sample.

Failure to find the malaria parasites in the blood smears however, may not always indicate that the patient did not have the disease. The blood smear, on which diagnosis of the disease depends, may not have been properly made. In fact, many blood smears have been received which showed such poor technique that the final laboratory report could not well represent a fair diagnostic decision. The making of the smears, on which so much depends, is an exacting procedure and cannot be made hastily and carelessly. As a guide to the making of such smears Figures 3 and 4 are here shown. Figure 3 shows a drop of the patient's blood on the edge of the clean glass slide, ready to make the smears.

Figure 3. Drop of Blood Ready to make Blood Smears for Malaria Parasites

The second step in the making of blood smears is to draw a clean glass slide over the slide with the drop of blood so obtained, holding the first one at an angle of 45°, as shown in Figure 4.

The slide, held at this angle, is drawn swiftly across the surface of the under slide, thus obtaining a thin blood smear on the lower slide. The process is then repeated using the other slide for the smear. The two slides are marked for

Figure 4. Second Step in Making Malaria Blood Smears

identification, dried rapidly in the air, placed back to back, inserted in their container ready to be returned to the laboratory for microscopic examination. Slides so made will present a thin surface, the blood corpuscles appearing unbroken, and the parasites, if present, may be easily found.

The question whether Connecticut is free from malaria may well be asked, since the blood smears sent to the Bureau of Laboratories of the State Department of Health during the twelve month period August 1923—July 1924 have numbered only 32. Of this number none have been found positive for malaria and none of these were reported as even of doubtful diagnosis. During this same period only 58 cases of malaria have been reported to the State Department of Health. Doubtless many of these blood specimens were examined at local laboratories. Only four positive diagnoses for malaria have been returned from the laboratory during the entire period November, 1919, to July, 1924. Attempts have been made in many places in the state to drain the swamps and eradicate mosquitoes, but this work has not been extensive enough to account for the apparent lack of malaria in the state as judged by the laboratory diagnosis. Perhaps the people in the state are "quininized" sufficiently to be protected from the disease. Present malaria in Connecticut may be of the "latent" kind where so few of the parasites are present in the blood as to be impossible of detection, yet may increase with any sudden lowering of body resistance to disease.

Whatever the cause there is very little demand for the examination of blood smears for malaria. The Laboratory is ready to increase this service.

Laboratories

DIAGNOSTIC DIVISION

	+	—	?	Total
Typhoid	9	48	7	64
Paratyphoid A	....	64	....	64
Paratyphoid B	1	63	....	64
Diphtheria				623
Diagnosis	63	275	2	
Release	76	207	....	
Diphtheria Carriers:				330
Diagnosis	30	270	....	
Release	....	30	....	
Diphtheria Virulence	3	27	....	30
Tuberculosis	22	68	....	90
Syphilis	155	1037	81	1273
Collodial Gold Test on Spinal Fluids	1	10	....	11
Gonorrhoea	23	51	....	74
Pneumonia		....		....
Type I	....			
Type II	....			
Type III	....			
Type IV	....			
Malaria	1	3	....	4
Rabies	....	5	....	5
Feces for Typhoid	....	24	....	24
Urine for Typhoid	....	9	....	9
Feces for Amoebae	....	1	....	1
Feces for Paratyphoid B	1	....	....	1
Urine for Paratyphoid B	1	....	....	1
Haemolytic streptococci	....	188	....	188
Vincent's Angina	1	190	....	191
Special	1	4	1	6
Totals	388	2574	91	3053

CHEMICAL DIVISION

Milk Examination

Number of towns sending samples	17
Number of samples tested	244
Number of samples below fat standard	6
Number of samples indicating watering	0

Water Examination

Number of town sending samples	76
Number of samples examined	146
Number of sewage examined	0
Total number of samples examined in the division of chemistry during the month of September	390

Total number of specimens examined:

In diagnostic division	3053
In chemical division	390
Total	3443

Vital Statistics

Vital Statistics for the First Half Year, 1924

During the first half year of 1924 the State has experienced a very favorable reduction in mortality when compared with 1923. In the first six months of 1924 there were reported 9,072 deaths while in 1923 there were 10,119 deaths, a decrease of 1,047. While these figures are provisional, they include numerous delinquent reports which were not received as the usual monthly summary of Vital Statistics was being written and some variation will be discovered in the total decrease given above and that published in recent Bulletins.

The mortality of 9,072 for the first half year yields a crude death rate of 12.1 per 1,000 on an annual basis. One year ago the rate was 13.7. As the crude death rate for 1923 at the end of the year was 12.0 it is apparent that no inconsiderable reduction in the mortality was experienced during the second half year. In 1923 there were 17,733 deaths for the year, 10,119 occuring in the first six months or about 57 per cent. If we assume that 1924 will produce the same proportion of mortality in the second six months as was experienced in 1923 it may be quite easily calculated that there will be 15,915 deaths in 1924 or 1818 less than 1923. This would yield a crude death rate of 10.6 for the year and be by far the lowest ever recorded in the State, the nearest being the rate of 11.4 for the year 1921.

The discussion above outlines what may happen if the mortality in 1924 for the second half year is reduced in the same proportion as it was in 1923. If we assume that 1924 is to experience exactly the same mortality as 1923 there will then be 16,686 deaths at the end of 1924, which will produce a crude death rate of 11.1 per 1,000 population. It is no more logical to expect this, however, than to anticipate the rate of 10.6 as calculated above—and both paragraphs are given merely as speculative possibilities, not as prophecies. One fact, however, seems clearly indicated; namely, that 1924 will produce a very favorable mortality, catastrophies excepted.

We will now pass on to discuss the following table which has been prepared to exhibit the number of deaths from certain diseases for the years 1924 and 1923.

CAUSE OF DEATH	1924	1923	Increase	Decrease	Rates* 1924	1923
Epidemic Encephalitis	14	43	....	29	1.9	5.8
Pneumonia Undefined	37	34	3	....	4.9	4.6
Typhoid Fever	13	9	4	....	1.7	1.2
Measles	42	132	....	90	5.6	17.9
Scarlet Fever	49	32	17	....	6.5	4.3
Whooping Cough	41	93	....	52	5.5	12.6
Diphtheria	95	113	....	18	12.6	15.3
Influenza	198	488	....	290	26.4	66.2
Tuberculosis Pulmonary	573	628	....	55	76.3	85.2
Tuberculosis Other Forms	83	80	3	....	11.0	10.8
Cancer	753	704	49	....	100.3	95.5
Cerebrospinal Meningitis	9	27	....	18	1.2	3.7
Poliomyelitis	5	3	2	....	0.7	0.4
Pneumonia, Lobar	452	633	....	181	60.2	85.8
Pneumonia, Broncho	517	741	....	224	68.8	100.4
Diarrhoea and Enteritis .... (Under 2)	95	105	....	10	12.6	14.2
Puerperal Diseases	98	111	....	13	**6.0	**7.0
Accident	523	492	31	....	69.6	66.7
Suicide	76	105	....	29	10.1	14.2
Homicide	26	21	5	....	3.4	2.8
Other Causes	5373	5525	....	152		
Totals	9072	10119	114	1161		

*Rates per 100,000 population, annual basis.
**Rates per 1,000 living and stillbirths combined, annual basis.

A survey of the columns of Increase or Decrease will show that there is no marked increase. Cancer, of course, shows an increase of 49 which seems to be in line, as this cause of death is increasing, thereby emphasizing the necessity of education. The deaths from accidents have increased 31 and the deaths from scarlet fever show an increase of 17.

Of the decreases the most pronounced may be grouped into Influenza and the Pneumonias. Here is a net decrease for the group of 692 deaths or very nearly two-thirds of the total decrease, all causes, of 1,047. It will be recalled that the winter months of 1924 were characterized by milder temperature than usual, that there were few sudden changes and that the winter was a comparatively open one. This at least suggests the possibility that the Pneumonias and Influenza are vidualdiseases of carelessness. That is carelessness on the part of the individual who will not meet the sudden changes of winter with proper clothing.

Measles, Tuberculosis, and Whooping Cough show very encouraging decreases. The other decreases are not so pronounced and may be taken from the table above.

Typhoid Fever is a disease which everyone follows with interest and which has been continually decreasing in recent years. It will be noted from the table above that there is an increase of nearly 50 per cent in the number of deaths for 1924 over 1923. The rates for the years are 1924, 1.7; and 1923, 1.2. As the rate for the year 1923 was 2.6 if a proportion is formed between the rates for the half year and the whole year, it may be calculated that the rate for 1924 will be 3.7.

On the whole the outlook is very encouraging for an extremely favorable, and perhaps a record, year.

MONTH OF AUGUST, 1924

Births

The reports for births received in this Department numbered 2,681 as compared with 2,781 for 1923, a decrease of 100. The average number of births from 1919-1923, inclusive, is 2,848, and from this it readily follows that 1924 is 167 below the average. The birth rate of 21.4 is the lowest which has appeared for the state in the last six years.

Of the towns over 5,000 in population 11 reported more births for this year when compared with 1923. The following reported increases of 10 or more, the figures after each town or city indicating the actual increase: Bridgeport, 12; Danbury 16; Enfield, 11; Manchester, 16; New Haven, 31; Norwich, 31; Shelton, 10; Stamford, 34; Stratford, 11; Torrington, 11; and West Haven, 12.

During the month 86 stillbirths were reported, a decrease of 8 over the 94 reported in 1923. The combined total of living and stillbirths for 1924 was, therefore, 2,767, and the 86 stillbirths constitue 3.10 per cent of this total. In 1923 the combined total of living and stillbirths was 2,875, and the 94 stillbirths constitute 3.26 per cent of this total.

Deaths

There were recorded 1,223 deaths during the month, a decrease of 6 as compared with 1,229 reported in 1923. With the exception of the banner year 1921, this is the lowest number of deaths reported since 1919, and is a gratifying continuance of the trend toward a decreased mortality during the present year. The average number of deaths for the 5 year period 1919-1923 is 1,267. It therefore appears that 1924 is 44 below the average. This is an encouraging experience. The following table gives a comparison between 1924 and 1923 with respect to certain diseases.

CAUSE OF DEATH	1924	1923	INCREASE	DECREASE
Diseases of the Heart	161	148	13	....
Epidemic Encephalitis	5	2	3	....
Pneumonia, Undefined	....	3	....	3
Typhoid Fever	6	4	2	....
Measles	1	3	....	2
Scarlet Fever	1	1	....	....
Whooping Cough	5	11	....	6
Diphtheria	7	4	3	....
Influenza	2	5	....	3
Tuberculosis, Pulmonary	83	98	....	15
Tuberculosis, Other forms	17	11	6	....
Cancer	130	138	....	8
Cerebrospinal Meningitis	5	3	2	....
Poliomyelitis	6	2	4	....
Pneumonia, Lobar	13	19	....	6
Pneumonia, Broncho	22	36	....	14
Diarrhoea and Enteritis, Under 2	60	49	11	....
Puerperal Diseases	12	13	....	1
Accident	101	88	13	....
Suicide	16	10	6	....
Homicide	1	4	....	3
Other Causes	569	577	....	....
Totals	1,223	1,229	69	123

Encouraging decreases will be noted for Tuberculosis Pulmonary, and Broncho Pneumonia. Of the Accidental deaths 26 were due to automobile accidents as compared with 28 in 1923.

Infant Mortality

Of the total number of deaths 175 were for infants under 1 year. This is a decrease of 13 below the 188 reported in 1923. The infant mortality rate per 1,000 living births is 67.8. One year ago it was 73.9.

Marriages

The number of marriages have decreased from 1,013 in 1923 to 1,005 in 1924, a decrease of 8. The average number of marriages over the 5 year period, 1919-1923 is 1,013; therefore 1924 is 8 below the average.

Births, Marriages and Deaths

August Statistics 1924	Population Based on U. S. Census Est. as of July 1, 1924	TOTALS: Births	Still Births	Marriages	Deaths	DEATH RATES: All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	AGE GROUPS: Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,502,405	2681	86	1005	1223	9.8	0.7	67.8	175	57	384
Ansonia	18,798	24	....	10	16	10.2	0.6	35.3	1	2	4
Branford	6,895	8	....	3	7	12.1	....	342.9	3	....	3
Bridgeport	162,491	312	15	106.	92	6.8	0.7	33.1	9	7	23
Bristol	23,918	49	5	13	21	10.5	1.5	86.6	4	1	7
Danbury	21,981	58	1	9	24	13.1	....	90.6	4	....	10
Derby	12,279	42	2	1	15	14.7	1.0	136.9	5	....	4
East Hartford	13,274	11	1	6	12	10.8	....	86.9	1	....	4
Enfield	12,629	33	2	12	16	15.2	....	161.6	4	3	4
Fairfield	13,950	13	2	2	5	4.3	....	115.9	2	....	1
Glastonbury	5,960	4	....	11	3	6.0	....	142.8	1	....	....
Greenwich	24,674	43	....	57	19	9.2	....	54.9	2	....	7
Groton	10,493	12	....	9	5	5.7	....	....	....	....	3
Hamden	9,890	14	....	7	12	14.6	....	67.7	1	1	1
Hartford	156,169	353	10	152	115	8.8	0.7	62.0	20	10	29
Killingly	8,905	8	....	3	8	10.8	....	....	....	....	1
Manchester	20,561	45	....	11	17	9.9	1.8	58.5	2	2	5
Meriden	36,014	56	4	17	34	11.3	1.0	78.4	5	1	13
Middletown	22,554	39	2	17	37	19.7	1.1	60.2	3	1	13
Milford	12,893	....	....	....	....	....	....	....	....	....	....
Naugatuck	16,130	17	....	5	6	4.5	0.7	131.1	2	....	1
New Britain	66,370	130	4	49	40	7.2	0.5	79.6	11	5	9
New Haven	175,827	365	14	132	147	10.0	0.5	84.9	28	11	36
New London	28,421	55	....	30	26	11.0	0.8	63.7	4	1	7
Norwalk	29,292	62	1	18	22	9.0	0.8	61.4	3	1	6
Norwich	30,303	79	3	15	41	16.2	1.2	45.4	3	1	11
Plainfield	8,465	16	....	3	5	7.1	....	75.0	1	....	....
Plymouth	6,315	6	1	3	2	3.8	....	....	....	....	....
Putnam	8,894	22	....	7	11	14.8	1.3	60.9	1	....	4
Seymour	7,705	6	....	3	4	6.2	....	214.3	2	1	....
Shelton	10,833	17	....	1	11	12.2	....	....	....	....	3
Southington	9,331	19	....	7	7	9.0	....	183.6	3	....	3
Stafford	5,456	14	....	5	6	13.2	4.4	83.9	1	....	2
Stamford	45,157	115	2	38	44	11.7	0.8	56.1	5	2	10
Stonington	10,718	17	....	10	7	7.8	....	72.7	1	....	6
Stratford	15,422	24	....	6	10	7.8	....	55.2	1	1	4
Thompson	5,171	9	....	7	3	7.0	....	104.3	1	....	....
Torrington	24,055	51	....	9	17	8.5	....	53.3	2	....	7
Vernon	8,822	10	....	3	4	5.4	1.4	91.6	1	....	1
Wallingford	12,405	11	1	3	10	9.7	1.0	....	....	....	8
Waterbury	100,291	193	7	47	63	7.5	0.2	80.0	15	....	14
Watertown	7,016	6	....	4	6	10.3	....	220.1	2	1	2
West Hartford	10,729	15	2	4	7	7.8	1.1	....	....	....	4
West Haven	17,354	40	1	15	27	18.7	0.7	193.5	6	1.	4
Westport	5,509	8	....	5	6	13.1	....	....	....	....	2
Winchester	9,095	18	1	8	7	9.2	....	54.7	1	....	4
Windham	14,265	....	....	....	14	11.8	....	66.5	2	....	6
Windsor	6,287	2	....	2	2	3.8	....	....	....	....	1
Towns under 5,000	212,439	230	5	120	210	11.9	0.7	48.3	12	4	97

for the month of August, 1924

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
161	5	......	6	1	1	5	7	2	83	17	130	5	6	13	22	60	12	101	16	1	409	224
3							1			1	1							2	1			1
1										1						1						
14			2			1		1	7	1	10		1	1		4	1	11	1		36	10
2									3		1					1		2			3	1
2					1						2					1		1	1		12	4
3									1									2			6	3
4											2			2		1						1
2						1					1					1		2	1		1	1
	1																	1				3
											1				1							
3											3			2	1	1		2			6	7
1																					1	
			1								3						1					3
12	1					1			3	3	12	1	1	2	4	8	2	10			68	28
1											1						1		2			
1									3								1	2			2	1
2									2	1	7			1	1	1		4	1		10	3
3									2		5			2	4	3		3	1		30	23
1									1		1											
3							1		2	1	5		1	1	1	4		4			8	5
14	2		1	1		1	1		4	2	23		1	1	3	17	3	9	4		63	16
3									1		3							4			12	7
3							1		1		5				1	1			1		6	2
7	1								8	1	2							3			25	8
1																		2	1			
																		1				1
3																	1				7	5
																			1			
3									4		1										4	4
																1						
									1		1										3	
4			2			1			2	1	2	1				2		6			21	8
2																						1
											3							1				
																1						
5											1							1		1	3	1
1									1		1											
1									1		2							1			4	
4								1	2	3	4	2				5		6			18	3
1																1		1				1
2											1							1			3	3
2									9		3					4		2			9	10
1											1						1				3	2
1											1										2	1
2											2							1			5	1
1																						
42							3		25	2	19	1	2	1	6	2	1	16	1		38	56

Six Year Study—August, 1919-1924

CONNECTICUT	1919	1920	1921	1922	1923	1924
BIRTHS	2670	2950	3020	2822	2781	2681
Birth Rate	21.9	25.4	25.5	23.4	22.6	21.4
MARRIAGES	1061	1051	1004	940	1013	1005
Marriage Rate	8.7	9.1	8.5	7.8	8.2	8.0
DEATHS	1255	1370	1220	1264	1229	1223
Death Rate	10.3	11.8	10.3	10.5	9.9	9.8
COMMUNICABLE DIS.* DEATHS	141	153	138	113	137	116
Per Cent to Total Deaths	11.2	11.2	11.3	8.9	11.1	9.5
DEATHS UNDER 1 YEAR	273	324	217	215	189	175
Rate per 1000 births	96.2	113.8	76.4	82.5	73.9	67.8

*Includes Typhoid Fever. Measles. Scarlet Fever. Whooping Cough. Diphtheria Tuberculosis Pul., Cerebrospinal Men., Poliomyelitis, Influenza.

Towns from which no report has been received

August, 1924*

BIRTHS	MARRIAGES	DEATHS
Canaan	Canaan	Franklin
Cromwell	Chester	Milford
Franklin	Cromwell	Newtown
Lisbon	Franklin	Plainville
Lyme	Hampton	Warren
Milford	Lyme	Waterford
Newtown	Milford	
North Canaan	Newtown	
Plainville	Plainville	
Warren	Sharon	
Washington	Simsbury	
Waterford	Sprague	
Willington	Warren	
Windham	Waterford	
Woodbury	Windham	
	Woodbury	

*This bulletin goes to press the 5th of each month.

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF SEPTEMBER, 1924

(as compared with previous years)

A comparison of the daily morbidity reports received during the month of September, 1924, with the corresponding month for the years 1919, 1920, 1921, 1922 and 1923.

Certain Diseases	Average 1919-1923 for Sept.	Mean 1919-1923 for Sept.	1919	1920	1921	1922	1923	1924
Cerebrospinal Meningitis ..	4	4	2	3	7	4	4	6
Diphtheria	193	190	249	190	231	178	115	112
Encephalitis Epidemic (Not reportable till 1921)				3	4	2	3	4
Measles	53	50	84	66	39	50	28	21
Poliomyelitis	12	11	1	8	18	11	24	33
Scarlet Fever	119	129	129	130	103	143	91	103
Smallpox	1	2	......	......	2	2	2	......
Typhoid Fever	72	67	67	121	76	36	58	39
Tuberculosis (pulmonary)	126	123	123	151	123	114	121	128
Whooping Cough	171	170	65	278	186	158	170	171

A comparison of the morbidity on these diseases for the two preceding months, July and August with the September record is as follows.

	July	August	September
Cerebrospinal Meningitis	5	8	6
Diphtheria	133	91	112
Encephalitis Epidemic	3	6	4
Measles	261	38	21
Poliomyelitis	15	36	33
Scarlet Fever	123	81	103
Smallpox	26	1	......
Typhoid Fever	24	44	39
Tuberculosis (pulmonary)	142	126	128
Whooping Cough	212	148	171

Cases of other Reportable Diseases September, 1924

Chickenpox	10	Paratyphoid Fever	1
Conjunctivitis Infectious	1	Tetanus	3
(Ophthalmia Neonatorum)..	1	Trachoma	3
Dysentery (Bacillary)	6	Chancroid	2
Encephalitis Epidemic	4	Gonorrhoea	97
German Measles	2	Syphilis	59
Influenza	6		
Malaria	6	Total	226
Mumps	25		

Cases of Occupational Diseases

Dermatitis Venanata	1	Lead Poisoning	4
Eczema of hands	1	Mercurial Poisoning	1
Infected eyelids	1		

Cases of Certain Reportable Diseases

August, 1924	Population Based on U. S. Census Est. as of July 1, 1924	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Cerebrospinal Meningitis	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com Diseases
State Total	1,502,405	39	21	103	171	112	6	33	128	9	40	226
NEW HAVEN CO.	**451,336**	**11**	**12**	**24**	**63**	**21**	**2**	**5**	**51**	**3**	**6**	**62**
New Haven	175,827	7	12	10	40	3		3	32	2	2	38
Waterbury	100,291			6	2	8			10		1	10
Meriden (city and town)	36,014				3	3	1		1	1	2	6
Ansonia	18,798					1			2			
West Haven	17,354	2			3							
Naugatuck	16,130								1			
Wallingford (town and boro)	12,405	1				2		1	1			
Milford	12,893				4	1		1	1			1
Derby	12,279					2	1					
Hamden	9,890			3	4				2		1	2
Branford (town and boro)	6,895	1							1			
Seymour	7,705			1		1						1
Towns under 5,000	24,855			4	7							4
FAIRFIELD CO.	**355,984**	**9**	**3**	**28**	**34**	**43**	**1**	**3**	**28**	**2**	**15**	**21**
Bridgeport	162,491	1	2	12	4	20			21	1	8	10
Stamford (city and town)	45,157	4		7	3	11			1			2
Norwalk	22,292	2	1		5							
Danbury (city and town)	21,981	2		3		1		2	1	1		
Greenwich (town and boro	24,674			2	11	1			1		3	3
Stratford	15,422				6	7					1	
Fairfield	13,950			2	2	1					1	2
Shelton	10,833			2		1			2			
Westport	5,509							1				2
Towns under 5,000	26,675				3	1	1		2		2	2
HARTFORD CO.	**375,816**	**9**	**4**	**29**	**32**	**27**	**1**	**21**	**30**	**3**	**12**	**115**
Hartford	156,169	3	2	11	19	7		9	11	1	3	82
New Britain	66,370			5		10		3	7	1	3	5
Bristol (city and town)	23,918			3		6	1	1	5		1	8
Manchester	20,561	1		7		1		5	1			6
Enfield	12,629	1	1								1	2
East Hartford	13,274			1					2	1		
Southington (town and boro	9,331				10						1	
West Hartford	10,729				3	1		1	1			1
Windsor	6,287	1				1			1			
Glastonbury	5,960											
Towns under 5,000	50,588	3	1	2		1		2	2		3	11
NEW LONDON CO.	**110,803**	**3**	**1**	**7**	**21**	**11**	**1**	**1**	**10**	**1**	**4**	**12**
Norwich (city and town)	30,303			4		1			7			
New London	28,421			1	1	7			1	1	1	8
Stonington (town and boro)	10,718		1		18	1	1		1			
Groton (town and boro)	10,493			1								1
Towns under 5,000	30,868	3		1	2	2		1	1		3	3
LITCHFIELD CO.	**79,046**	**1**		**10**		**3**			**2**		**1**	**4**
*Torrington (town and boro)	24,055					1						
Winchester (inc. Winsted)	9,095											
Plymouth	6,315			1								3
Watertown	7,016											
Towns under 5,000	32,565	1		9		2			2		1	1
WINDHAM CO.	**54,881**	**3**		**2**	**2**	**2**	**1**	**1**	**2**		**1**	**1**
Windham (inc. Willimantic)	14,265			1	2				1			1
Putnam (city and town)	8,994											
Plainfield	8,465					1			1			
Killingly (inc. Danielson)	8,905											
Thompson	5,171					1	1					
Towns under 5,000	9,181	3		1				1			1	
MIDDLESEX CO.	**46,972**	**2**	**1**	**1**	**11**	**1**			**4**			**2**
Middletown (city and town)	22,554			1		1						
Middletown State Hospital									4			
Towns under 5,000	24,418	2	1		11							2
TOLLAND CO.	**27,567**	**1**		**2**	**8**	**4**		**2**	**1**		**1**	**9**
Vernon (inc. Rockville)	8,822	1		2	1			2	1			1
Stafford (town and boro)	5,456											
Towns under 5,000	13,289				7	4					1	8

(For cases of other reportable diseases, see page 247)

*Delayed Reports

State of Connecticut
Health Bulletin

"For a Clean State and a Healthy People"

Vol. 38 November, 1924 No. 11

This Issue Contains

STANLEY H. OSBORN, M. D., C. P. H., Commissioner.

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HARTFORD

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THE STATE DEPARTMENT OF HEALTH,
8 WASHINGTON STREET,
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CONNECTICUT
HEALTH BULLETIN

Vol. 38 November, 1924 No. 11

Issued Monthly by the
STATE DEPARTMENT OF HEALTH

HEALTH EXHIBIT AT FAIRS

The Fair season of 1924 was over. The big white tent came down for the last time, rather slowly to be sure, as if reluctant to admit that its services would not be needed for many months. Nor was it quite as resplendent as on the first day of its appearance for marks of its service were plainly visible. But it was triumphant for it had proudly housed the health exhibit for eight weeks, and welcomed upwards of twenty thousand people in various parts of the state. It had also learned the lesson of competition for it had held its own among the other midway attractions in spite of the fact that it carried no wheels of chance to lure the crowd. It was, indeed, conscious of the fact that it had held a central place at each fair, generously granted by the Fair officials who recognized its value even on the midway.

That the health exhibit was a success was shown by the ready response to it at each of the fairs. It was sent to seventeen fairs throughout the state as follows, Fairfield County, Brookfield; Litchfield County, Washington, Goshen, Plymouth, Harwinton and Riverton; Middlesex County, Middletown, Durham and East Haddam; New Haven County, Guilford, New London County, Norwich, Griswold and Lyme; Tolland County, Rockville and Stafford; Windham County, Woodstock and Brooklyn. This brought it into contact with the rural population who flocked in by the thousands to inspect its various sections and return many times with friends, so that they too might enjoy it. Whole families looked in and found there something of interest for each member. The little children were weighed and measured, the mothers standing by asking questions meanwhile and watching carefully so that they might weigh their children often to see if they are gaining as normal children should. After each weighing there was a moment of suspense over the disposal of the blue tag on which had been recorded the weight, height and the normal weight.

Usually the child won out and wore home the tag on the front of his blouse, though the mother looked to it that it was securely fastened as this was too valuable to be lost. Occasionally, the mother won out, and the tag was safely tucked away in her bag for future reference. About three thousand children were so weighed, representing all ages from two months to sixteen years.

Adults looked longingly at the scales—it seems to be a favorite sport for them—but their attention was directed to the other exhibits which had been assembled with the adult in mind. Some who had previously been prejudiced against vaccination were convinced of the need when they looked at the pictures of certain smallpox cases. These were Connecticut cases of recent occurrence, and disabling them did much to drive home the fact that smallpox is a horrible disease and should be prevented by vaccination.

Fathers as well as mothers were interested in the nutrition exhibit which showed the relation of proper foods to health. Here contrasting market orders showed the danger to health of a daily diet of white bread, crackers, macaroni, pickles, candy, pastries and salt meats only, as these are lacking in protein, vitamins and the mineral salts which play such an important part in health. The market order complete in all respects attracted notice at once by the presence of milk and abundance of green vegetables and fruits, as well as coarse cereals and breads. The food exhibit was so graphic that it carried its own message, though many lingered to discuss nutrition problems.

At various times small groups gathered while the oral hygienist discussed the advantages of keeping the teeth clean. She was supplied with a collection of tooth brushes, some of which would accomplish the purpose better than others. While these groups were largely children, many adults were found on the outskirts, learning the lesson of dental care which had too often been neglected in their childhood.

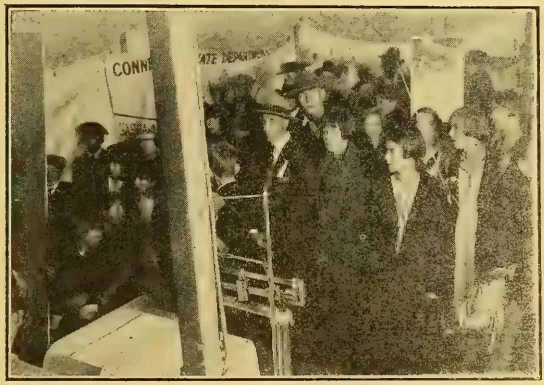
By way of entertainment moving pictures were shown at each fair. This was made possible by the use of a generator attached to one of the cars. All the health films (Working for Dear Life, Diphtheria, Rat Menace, Fly Danger, One Side or Many, Personal General Hygiene) which have been so popular during the winter season were shown and carried the health message to thousands.

Although health leaflets had been distributed at the fairs a year ago, there was an increased demand for them this year. Many were already familiar with these health hints and asked for extra copies. Many new leaflets had been added to the

list, each one so popular in its appeal that thousands requested copies of them. Fifty thousand of these were distributed. So the message was spread for each copy will be read and passed on to others, and the good work will continue during the winter months.

There was co-operation from the local nurses, all of whom were interested, and many of whom gave freely of their time during the Fair days. Health officers and other community leaders visited the exhibit, and went away feeling that this had helped to interpret their own work to their people, thus extending their efforts.

Does it pay to advertise health? This has been answered many times during the Fair season. The value of health has been demonstrated by this popular appeal. That people are now thinking in terms of health and talking about health is shown by a growing demand in all parts of the State for health service.



Moving Pictures Carry Their Own Health Message to the Crowd

Laboratories

LABORATORY WORK IN NEW LOCATION

In these modern days wishes are not often gratified by magician like rapidity, especially when there seems to be little promise of their fulfillment. Such was the case when the Laboratories of the State Department of Health in New Haven, January, 1924, wished for larger and more adequate quarters, where the staff might carry on its important function in the program for "a clean state and a healthy people" without rubbing elbows too freely in the performance of it. The hope was written large in the heart of each worker, who felt that the crowded quarters were a distinct obstacle to good work. In a most unexpected fashion the change came about (see Vol. 38 No. 8) and in a surprisingly short time the work of the Bureau of Laboratories was transferred to the new quarters at 247 Pearl Street, Hartford.

It was quite an undertaking to make the transfer without interrupting the work of the Bureau. So much depends on the daily routine. Specimens are sent in daily on which diagnoses must not be delayed for any cause no matter how important, for physicians and health officers are waiting for the results which may determine the treatment of or preventive methods against some disease. During the transfer the routine work of the Laboratories was carried on practically as usual. This was made possible by a carefully thought out plan, which included a plentiful supply of advance notices notifying those who used the Laboratories of the change in address; new printed forms and labels immediately replaced the old; post offices had been notified of the change and urged to co-operate by diverting such mail to the new address as might still appear under the old labels; in fact no avenue was left unguarded by which specimens might be delayed in reaching the Laboratory at its new home. Equipment to serve the immediate needs was in place on the day of the transfer and the necessary piping for hot water, cold water and gas ready to hook up to the apparatus so that examinations could be made as usual. Even the sheep which play such an important part in the preparation of reagents for the Wassermann test were transferred without mishap and have since found grazing in Hartford quite as conductive to happiness as at New Haven.

A glimpse of the new quarters gives instant proof of the benefit of such a change. While not built for laboratory work the floor space has been conveniently sectioned off to house the main branches of its activity. To those who still have visions ahead for a real laboratory building, one in which the State could justly be proud and which is justified by the type and importance of the work undertaken, these quarters still present a temporary appearance. But to those who have struggled for several years to do laboratory work under the most congested conditions, the present Laboratories are a great step forward. No such crowded conditions as formerly existed, greet visitors who mount the stairs for a friendly visit. Nor does one seem to be thrust into the midst of laboratory activity, feeling like a "bull in a china shop" as one did at New Haven. At the entrance one is greeted by a clerk at the reception desk and directed to the person best suited to meet the needs. Should this be a conference with the director one is led to his private office, a welcome addition to the Laboratory as one can attest while recalling the scene of one's former visits, with typing and filing and diagnosing of disease at one's back and elbow.

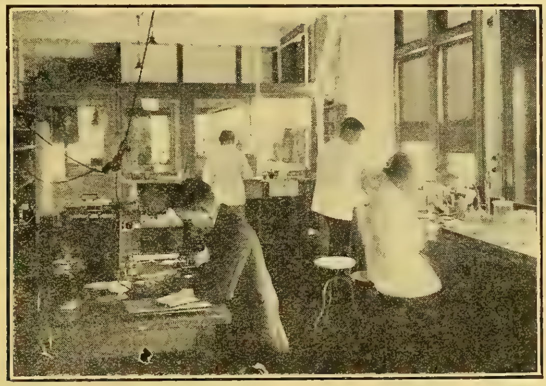


Figure 1. Rush Hours in the Diagnostic Division

Here are separate quarters for the diagnostic work, with plenty of light and ample space to examine the specimens and treat each according to its special requirements. Rooms are also provided for the blood examinations in the Wassermann test and for the testing of clinical thermometers. This facilitates the work as each is an exacting process and can best be accomplished in quarters which are free from the encroachment of other scientific work. Electrically controlled incubators, centrifuges, inactivators, water baths and other devices have been installed in these rooms.

Figure 2. Section of the Laboratory where Water Samples are Examined

To one who is familiar with the milk and water examinations and the immense amount of sterile equipment required for each, it is a pleasure to note the freedom with which these are now handled. No cramped quarters limit the performance of these tasks and so the execution of them has been made less difficult.

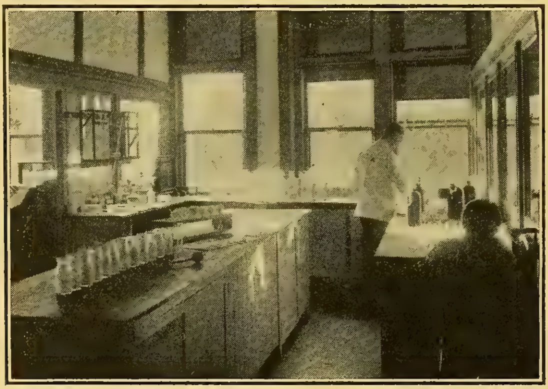


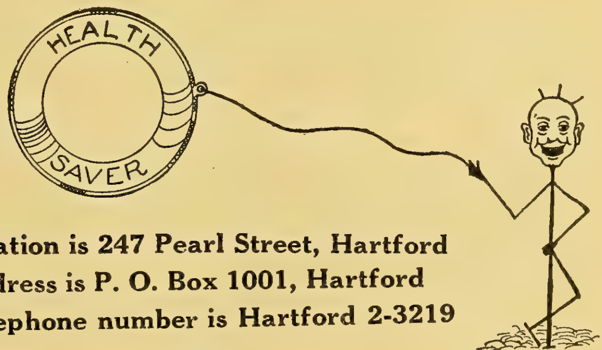
Figure 3. Plenty of Space now Available for Examination of Milk Samples

In the new Laboratories one is struck by the abundance of shelf room, and cabinet space already claiming the overflow of equipment for routine work or embracing the reference books and periodicals. Complete stock room space has also been

made available for the storage of apparatus, the supply of chemicals, and for the shipping containers for water and milk samples. One also notes that the filing and clerical branches of the work occupy a special room without encroaching on the purely technical and more exacting phases of the laboratory work. Conditions under which all equipment is sterilized and media prepared are much improved so that these tasks are already simplified. The experimental animals (guinea pigs, and rabbits) have been considered, and now much prefer their own room in the third story front to their former dark and dismal quarters in the basement which had to be shared with so many other phases of routine work.

There is even room to expand and should all the health officers of the state decide to send samples of milk for examination, instead of the limited number who have made use of this privilege during the last year, the work could be handled in so far as laboratory space is concerned. Or, should the larger effort to control disease through an earlier and more frequent examination of specimens for disease germs result in a more general use of the Laboratories, this increase of work could well be taken care of. The Laboratory is the place where new problems in disease control can be worked out. It now has better facilities for developing this phase of its work and stands ready to co-operate along these lines with physicians who have not the time although they may have the inclination to investigate such problems.

Visitors to the Laboratories are welcome at any time and the director and his staff extend a cordial invitation "to come in and look us over." These Laboratories belong to the people of the State and physicians, health officers, groups of nurses or teachers or other individuals can better visualize the important work which is being accomplished there by a personal visit. This can be easily done as the new quarters are only a block or two from the center of the city, the railroad station or the bus stations or the capitol.



The location is 247 Pearl Street, Hartford
The address is P. O. Box 1001, Hartford
The telephone number is Hartford 2-3219

Report for October, 1924

DIAGNOSTIC DIVISION

	+	—	?	Total
Typhoid	11	35	9	55.
Paratyphoid A	....	52	3	55
Paratyphoid B	2	50	3	55
Diphtheria:				947
Diagnosis	140	402	....	
Release	130	275	....	
Diphtheria Carriers:				1174
Diagnosis	166	760	....	
Release	52	196	....	
Diphtheria Virulence	6	32	....	38
Tuberculosis	22	88	....	110
Syphilis	132	1174	69	1375
Collodial Gold Test on Spinal Fluids	3	16	....	19
Gonorrhoea	26	67	1	94
Pneumonia		....		1
Type IV	1			
Malaria	....	1	....	1
Rabies	1	2	....	3
Glanders	....	1	1	2
Feces for Paratyhoid A	1	....	....	1
Urine for Typhoid	1	14	....	15
Feces for Paratyphoid B	1	....	....	1
Urine for Partatyphoid A	1	....	....	1
Feces for Dysentery	....	1	....	1
Haemolytic Streptococci	18	422	....	440
Vincent's Angina	1	439	....	440
Special				13
Cow's lungs and liver for tuberculosis	1	....	....	
Plueral fluid exam.	2			
Urine for pus	....	2	....	
Blood culture	1	....	....	
Pus, thorax, boils	7			
Totals	727	4050	86	4863

CHEMICAL DIVISION

Milk Examination

Number of towns sending samples 20
Number of samples tested 314
Number of samples below fat standard 9
Number of samples showing low refractive index, indicating watering 0

Water Examination

Number of towns sending samples 78
Number of samples examined 166
Number of sewage examined 0
Total number of samples examined in the division of chemistry during the month of October 480

Clinical Thermometers Tested.

Number of thermometers passing test 26 rejected 20 Total 46

Vital Statistics

MONTH OF SEPTEMBER, 1924

Births

The total number of births registered for September, 1924 was 2,425. This figure is 185 lower than that of last September, which was 2,610. The average number of births for the five year period 1919-1923 is 2,805, hence this month is 380 below the average. It is interesting but alarming to note that every month this year the total births have been below the five year average for their respective months. The actual figures, representing the amount below the five year average in each case, being as follows:

January	257
February	315
March	244
April	273
May	188
June	104
July	34
August	167
September	370

It is evident from the above figures that only in July did the number of births even approximate the five year average for that month, there being at all other times a marked decrease. Such a condition means that this year will probably set a new low mark for the total number of births.

However, in spite of the general decrease in births for the state, certain of the larger towns show increases in the number of births for this month as compared with September, 1923. Of towns showing increases of 10 or more, Stamford leads with 20; Waterbury 18; Hartford and Killingly 15; Bristol 10. The number, in each case, represents the actual increase.

100 stillbirths were reported this month, which is exactly the same as were reported last September. The combined births and stillbirths amount to 2,525, the 100 stillbirths being 3.9 per cent of the total.

Deaths

The deaths recorded this month amounted to 1,214, only 6 less than the 1,220 recorded in September, 1923. The proximity of these figures reminds us that the pleasure we have derived, up to the present time, from a decreasing death rate is possibly at an end. We started the year most auspiciously with a rate of 12.3 in January as compared with 14.9 for January, 1923. Each month since then our death rate has been

noticeably less than it was in 1923. However, in August and September the situation changes and we find the two death rates quite close together. The actual figures are 9.9 for August and September, 1923, and 9.8 and 9.4 for August and September, 1924. In spite of the reduction of the margin between these two rates we can still hope for a lower yearly death rate in 1924 than in 1923 unless we should have some sharp increase in the number of deaths, between now and December.

In the following table we find listed the principal causes of death with their numbers for this month and their increase or decrease over September, 1923.

CAUSE OF DEATH	1924	1923	INCREASE	DECREASE
Diseases of the Heart	162	155	7	....
Epidemic Encephalitis	4	2	2	....
Pneumonia Undefined	1	2	....	1
Typhoid Fever	8	6	2	....
Measles	....	....	....	....
Scarlet Fever	1	4	....	3
Whooping Cough	9	14	....	5
Diphtheria	14	6	8	....
Influenza	3	4	....	1
Tuberculosis (Pulmonary)	73	77	....	4
Tuberculosis (Other Forms	5	9	....	4
Cancer	131	127	4	....
Cerebrospinal Meningitis	2	1	1	....
Poliomyelitis	4	2	2	....
Pneumonia, Lobar	20	19	1	....
Pneumonia, Broncho	24	32	....	8
Diarrhoea and Enteritis, (Under 2)	38	66	....	28
Puerperal Diseases	14	11	3	....
Accident	90	102	....	12
Suicide	12	13	....	1
Homicide	3	2	1	....
Other Causes	596	566	30	....

From the above table we see no startling changes save that of a decrease of 28 in deaths from diarrhoea and enteritis in children under 2. All others seem to reflect the tendency of the times i. e., increase of 7 from heart diseases and increase of 4 from cancer.

Analysis of the accidental deaths reveals the fact that of the total 90 deaths, 22, or 24.4 per cent were due to automobile accidents. Last year in September there were 102 accidental deaths of which 31 or 30.4 per cent were the result of automobile accidents.

Marriages

Only 1300 marriages were reported this month, a figure 254 below the 1,554 reported for September, 1923. The marriage rate 10.4 is therefore lower than last year. In fact it has not been so low in September since 1919, when it was exactly the same, 10.4.

Six Year Study—September, 1919-1924

CONNECTICUT	1919	1920	1921	1922	1923	1924
BIRTHS *Birth Rate*	2986 24.5	2858 24.6	2890 24.4	2683 22.2	2610 21.2	2425 19.4
MARRIAGES *Marriage Rate*	1273 10.4	1548 13.3	1316 11.1	1317 10.9	1554 12.6	1300 10.4
DEATHS *Death Rate*	1189 9.7	1326 11.4	1186 10.0	1216 10.1	1220 9.9	1214 9.7
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	129 10.8	150 11.3	140 11.8	108 8.9	114 9.3	114 9.3
DEATHS UNDER 1 YEAR *Rate per 1000 births*	233 82.1	281 98.6	194 68.3	171 60.1	195 76.3	176 68.3

*Includes Typhoid Fever. Measles. Scarlet Fever. Whooping Cough. Diphtheria Tuberculosis Pul., Cerebrospinal Men., Poliomyelitis, Influenza.

Towns from which no report has been received, September, 1924

BIRTHS	MARRIAGES	DEATHS
Colchester	Bozrah	Cornwall
Cornwall	Canaan	Durham
Durham	Cornwall	Hartland
East Granby	Durham	Lisbon
Hartland	East Granby	Plainville
Lisbon	Hartland	Prospect
Lyme	Lyme	
Madison	Madison	
Marlborough	Middlefield	
New Canaan	Plainville	
Prospect	Prospect	
South Windsor	Sherman	
Thomaston	Waterford	
Warren		
Washington		

*This bulletin goes to press the 5th of each month.

Births, Marriages and Deaths

September, 1924 Statistics 1924	Population Based on U. S. Census Est. as of July 1, 1924	TOTALS Births	Still Births	Marriages	Deaths	DEATH RATES All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	AGE GROUPS Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,502,405	2425	100	1300	1214	9.7	0.6	68.3	176	45	402
Ansonia	18,798	24	3	8	16	10.2	0.6	211.8	6	1	4
Branford	6,895	10	....	4	1	1.7	....	....	....	....	....
Bridgeport	162,491	287	10	134	107	7.9	1.1	58.8	16	5	29
Bristol	23,918	59	1	18	6	3.0	....	21.7	1	2	1
Danbury	21,981	37	2	22	21	11.5	0.5	22.6	1	....	9
Derby	12,279	31	3	8	8	7.8	....	27.4	1	1	1
East Hartford	13,274	7	1	7	6	5.4	0.9	87.0	1	....	2
Enfield	12,629	17	1	18	14	13.3	1.0	40.4	1	2	5
Fairfield	13,950	19	....	9	7	6.0	....	60.0	1	1	2
Glastonbury	5,960	3	....	....	2	4.0	....	....	....	....	....
Greenwich	24,674	37	4	63	12	5.8	0.5	54.9	2	1	4
Groton	10,493	7	1	9	2	2.3	....	74.1	1	....	1
Hamden	9,890	16	....	8	5	6.1	....	135.6	2	....	2
Hartford	156,169	345	10	157	129	9.9	0.4	58.9	19	10	41
Killingly	8,905	21	....	8	7	9.4	....	275.9	4	....	3
Manchester	20,561	37	1	15	15	8.8	0.6	29.2	1	....	6
Meriden	36,014	58	3	33	34	11.3	0.7	94.1	6	2	10
Middletown	22,554	51	2	19	38	20.2	0.5	60.1	3	....	20
Milford	12,893	16	....	7	10	9.3	1.9	75.5	1	....	4
Naugatuck	16,130	14	....	11	5	3.7	1.5	....	....	....	1
New Britain	66,370	105	5	52	43	7.8	0.5	79.6	11	....	6
New Haven	175,827	306	10	163	162	11.1	0.6	72.8	24	5	46
New London	28,421	54	2	44	41	17.3	....	63.7	4	2	17
Norwalk	29,292	48	1	27	18	7.4	0.8	81.8	4	....	7
Norwich	30,303	62	3	33	40	15.8	2.8	45.4	3	1	12
Plainfield	8,465	9	1	6	3	4.3	....	....	....	....	1
Plymouth	6,315	7	....	6	3	5.7	....	117.6	1	....	....
Putnam	8,894	12	1	8	6	8.1	....	121.8	2	....	2
Seymour	7,705	5	....	4	5	7.8	....	107.1	1	1	1
Shelton	10,833	14	....	7	19	21.0	1.1	63.5	1	....	3
Southington	9,331	19	....	7	7	9.0	....	244.9	4	....	1
Stafford	5,456	17	....	7	6	13.2	....	83.9	1	....	1
Stamford	45,157	93	5	48	43	11.4	0.3	112.4	10.	1	16
Stonington	10,718	9	....	10	7	7.8	....	....	....	....	4
Stratford	15,422	13	....	14	12	9.3	....	55.3	1	....	6
Thompson	5,171	10	1	5	7	16.2	....	417.4	4	....	1
Torrington	24,055	42	3	12	15	7.5	0.5	53.3	2	....	6
Vernon	8,822	5	....	6	5	6.8	....	....	....	....	2
Wallingford	12,405	18	....	3	10	9.7	1.0	65.6	1	....	5
Waterbury	100,291	183	11	74	78	9.3	0.4	85.4	16	3	16
Watertown	7,016	4	....	4	1	1.7	....	....	....	1	....
West Hartford	10,729	18	2	4	6	6.7	....	....	....	2	1
West Haven	17,354	45	3	12	14	9.7	....	96.8	3	....	5
Westport	5,509	4	....	5	7	15.2	2.2	....	....	....	3
Winchester	9,095	19	3	5	13	17.2	....	109.6	2	....	4
Windham	14,265	21	1	13	11	9.3	....	33.2	1	1	4
Windsor	6,287	6	....	1	5	9.5	....	137.9	1	1	2
Towns under 5,000	212,439	181	6	162	182	10.2	0.6	48.4	12	2.	85

for the Month of September, 1924

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
162	4	1	8		1	9	14	3	73	5	131	2	4	20	24	38	14	90	12	3	437	227
2									1		1			1		2		1				
											1											
14	2	1				1	1		11	1	12			2	1	2	3	5	3		40	12
						1					1				1							
1											4					1		3			7	5
3											1					1					5	5
1									1									1				
1						1			1									3				1
						1										1		1				2
1																		1				1
						1					2							1			3	1
1															1							
																		1				1
22	1					1	2		1	1	9		3	1	6	4	2	16			79	39
											1					1						
1					1				1		6		1		1	1		2			6	2
4	1							1	2	1	3	1						3			16	5
7									2		3			3	3		2	1			25	16
3									1		1										2	2
									1													
4			1						1		4			2	1	1		5			11	6
23			3			2			5	1	18			4	2	10	1	8	2	1	75	25
5							2				4				1			3	1		18	10
2											6										4	1
4								2	10		5				1	1		2			14	5
1																		1				1
																			1			
			1																		3	1
1											2							1				
1									11									1			11	11
														1		1						
1											1							1			2	
5			1				1		1		6				1	1	1	4			17	3
2																			1			
2							1				2											
1												1				2		2				1
1									1		3			1				1			7	3
											1											
2									1		2					1					5	
8							3		2		9			1		4	2	6	1	2	31	12
2															1			1			2	2
2									2		1			1		1	1				5	6
									1		1				1						5	3
1											1						1				7	2
1											3							1			5	3
							1				1					1					1	
32			2			1	3		16	1	16			3	3	2	1	14	3		31	40

MIDWIVES OF CONNECTICUT

In October, 49 midwives gathered at Grace Hospital, New Haven, to attend the first Institute for Midwives held in Connecticut. They came from every part of the State many remaining for the two days and attending every session of the Institute.

The Institute was held under the auspices of the Grace Hospital, the New Haven Department of Health and the State Department of Health. The program provided papers and demonstrations on subjects pertaining to the modern practice of midwifery. Motion pictures on prenatal care and other health subjects were shown. A luncheon was served by Grace Hospital the noon of the first day, which provided an excellent opportunity for the renewal of old acquaintances and the exchange of greetings with the new members of the profession. A business session was held to form the Connecticut Association of Midwives. This was accomplished and officers were elected.

"An Institute for midwives! I did not even know that there were midwives in these days."

Many remarks similiar to this showed there were some who think it incredible that there still are midwives in a country where there is so high a standard of medical and nursing care. Connecticut is fortunate in having only a small number, but fairly well trained and licensed midwives. They live and work, for the most part, in the towns where there are large foreign settlements. There are 114 midwives located in 27 towns. In 1923 they attended 4,488 births or 14.6 per cent of all births in the state.

The midwife is recognized by law in Connecticut. In 1893 the general statutes provided for the examination of those wishing to practice midwifery. In 1902 a Midwifery Board of Examination was created. Three written examinations are held each year. Upon having successfully passed the examination, a license is issued by the State Department of Health. Since 1919 midwives have been required to register annually.

In 1923 an Act concerning the Practice of Midwifery was passed, which defines midwifery and provides definite regula-

tions. That these regulations are a great help in standardizing the practice of midwifery throughout the State is well shown by the application of the section on equipment which

Figure 1. Midwife's Bag Showing Equipment

is as follows. Each midwife shall be supplied with the following equipment which shall be open to inspection by the inspector or agents of the State Department of Health.

Black Boston Bag (16 inch)
Washable Linings (2 sets)
2 Thermometers (mouth and rectal)
2 Scissors (having round points)
2 Clamps (curved)
Thumb forceps
Scales (Baby)
Rubber sheet (at least 36 inches square)
Fountain Syringe and Rectal Nozzle
Soap (cake or liquid)
Hand Brush and Orange Stick
Such bag and its contents shall be kept clean

Alcohol
Lysol
Boric Acid Powder
Silver Nitrate 1% ampoules (Board of Health)
Tube of Vaseline
Sterile umbilical tape in bottle
Sterile cotton in small packages
Sterile cord dressings (individual)
White gown or apron (sterile)
Case book and pencil
Birth record blanks

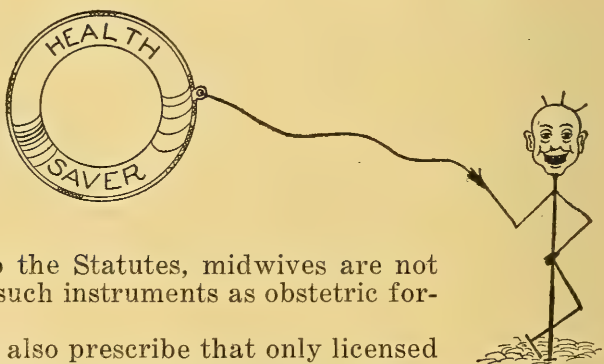
In 1922 the State Department of Health appointed an instructor of midwives. The duties of the instructor includes the holding of conferences of midwives, visiting the midwife in her home to give individual instruction, to explain new laws, and to inspect her equipment.

She also accompanies the midwife to the homes of her patients to observe her work. The midwives have responded to this supervision in many ways. They have brought both in-

dividual and community problems to the conferences for discussion; reported unlicensed women practicing in their towns; co-operated with the local health officers and other health agencies and have discussed case problems with the instructor. In one city the midwives have formed an association and have arranged to meet regularly to discuss their problems. A speaker is often provided for these meetings.

Figure 2. Midwife's Bag Ready for a Case

The attendance at the Institute and the spirit throughout the meetings, make one feel sure that the Connecticut midwives are trying to keep the standard of their profession high.



According to the Statutes, midwives are not allowed to use such instruments as obstetric forceps.

The Statutes also prescribe that only licensed doctors of medicine can prescribe drugs, poisons, medicines or chemicals.

This means that midwives cannot prescribe treatment by the month and cannot give hypodermic injections.

The State Statutes provide that in certain instances a physician shall be called in by the midwife.

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF October, 1924

(as compared with previous years)

A comparison of the daily morbidity reports received during the month of October, 1924, with the corresponding month for the years 1919, 1920, 1921, 1922 and 1923.

Certain Diseases	Average 1919-1923 for Oct.	Mean 1919-1923 for Oct.	1919	1920	1921	1922	1923	1924
Cerebrospinal Meningitis ..	5	4	1	11	4	2	8	4
Diphtheria	375	361	548	410	361	354	203	173
Encephalitis Epidemic (Not reportable till 1921)				1	5	......	2	6
Measles	236	241	327	285	110	215	241	24
Poliomyelitis	10	10	12	9	13	10	17	19
Scarlet Fever	240	212	320	279	186	212	201	247
Smallpox	......	......	......	......	......	......	......	......
Typhoid Fever	56	60	68	62	51	41	60	29
Tuberculosis (pulmonary)	137	131	150	164	112	131	129	125
Whooping Cough	160	122	77	282	122	219	100	204

A comparison of the morbidity on these diseases for the two preceding months, August and September with the October record is as follows:

	August	September	October
Cerebrospinal Meningitis	8	6	4
Diphtheria	91	112	173
Encephalitis Epidemic	6	4	6
Measles	38	21	24
Poliomyelitis	36	33	19
Scarlet Fever	81	103	247
Smallpox	1	......	......
Typhoid Fever	44	39	29
Tuberculosis (pulmonary)	126	128	125
Whooping Cough	148	171	204

Cases of other Reportable Diseases

Chickenpox	90	Tetanus	3
Dysentery (Amoebic)	1	Trichinosis	2
Encephalitis Epidemic	6	Chancroid	1
Favus	1	Ophthalmia Neonatorum	1
German Measles	11	Gonorrhoea	82
Influenza	6	Syphilis	118
Mumps	44		
Septic Sore Throat	3	Total	369

Cases of Occupational Diseases

Lead Colic	1
Lead Poisoning	2
Occupational Dermatitis	1
Total	4

Cases of Certain Reportable Diseases

October, 1924	Population Based on U. S. Census Est. as of July 1, 1924	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Cerebrospinal Meningitis	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com Diseases
State Total	1,502,405	29	24	247	204	173	4	19	125	18	82	369
NEW HAVEN CO.	**451,336**	**6**	**13**	**52**	**88**	**52**	**2**	**5**	**46**	**16**	**19**	**115**
New Haven	175,827	3	10	25	53	5	2	....	23	13	9	59
Waterbury	100,291	....	1	7	9	27	....	2	11	1	....	15
Meriden (city and town)	36,014	....	....	2	6	3	....	....	3	1	5	20
Ansonia	18,798	....	1	1	2	6	....	....	4	....	....	8
West Haven	17,354	1	....	....	....	....	....	....	....	....	....	1
Naugatuck	16,130	....	....	....	....	....	....	....	2	....	....	1
Wallingford (town and boro)	12,405	1	....	....	....	3	....	1	1	1	....	3
Milford	12,893	....	....	1	....	....	....	....	....	....	1	2
Derby	12,279	....	....	3	....	4	....	....	1	....	....	1
Hamden	9,890	1	....	....	1	....	....	1	1	....	2	3
Branford (town and boro)	6,895	....	....	....	....	....	....	....	....	....	....	....
Seymour	7,705	....	....	4	....	....	....	....	....	....	....	....
Towns under 5,000	24,855	....	1	9	17	4	....	1	....	....	2	2
FAIRFIELD CO.	**355,984**	**9**	**2**	**52**	**39**	**42**	....	**6**	**32**	....	**25**	**57**
Bridgeport	162,491	4	....	22	1	19	....	2	13	....	16	31
Stamford (city and town)	45,157	1	....	11	4	13	....	....	1	....	1	4
Norwalk	22,292	2	1	....	1	....	....	....	3	....	....	2
Danbury (city and town)	21,981	1	1	2	....	4	....	2	5	....	....	3
Greenwich (town and boro)	24,674	....	....	12	20	....	....	1	5	....	3	3
Stratford	15,422	....	....	....	7	6	....	....	....	....	3	2
Fairfield	13,950	1	....	....	....	....	....	....	2	....	1	....
Shelton	10,833	....	....	5	....	....	....	1	1	....	....	....
Westport	5,509	....	....	....	....	....	....	....	....	....	....	....
Towns under 5,000	26,675	....	....	....	6	....	....	....	2	....	1	12
HARTFORD CO.	**375,816**	**7**	**3**	**54**	**32**	**46**	**2**	**5**	**31**	**1**	**31**	**118**
Hartford	156,169	1	....	17	13	20	1	1	17	....	10	59
New Britain	66,370	4	1	23	....	17	1	1	3	1	9	16
Bristol (city and town)	23,918	....	1	3	1	2	....	....	4	....	3	9
Manchester	20,561	1	....	5	....	....	....	....	1	....	2	8
Enfield	12,629	....	....	1	3	2	....	....	....	....	2	1
East Hartford	13,274	....	....	1	2	....	....	....	1	....	....	2
Southington (town and boro)	9,331	....	....	1	10	2	....	....	....	....	....	1
West Hartford	10,729	1	....	....	1	....	....	1	1	....	4	9
Windsor	6,287	....	....	....	....	....	....	....	....	....	....	1
Glastonbury	5,960	....	....	1	....	....	....	....	....	....	....	....
Towns under 5,000	50,588	....	1	2	2	3	....	[illegible]	4	....	1	12
NEW LONDON CO.	**110,803**	**5**	**2**	**19**	**26**	**27**	....	**2**	**6**	**1**	**2**	**38**
Norwich (city and town)	30,303	1	....	10	....	15	....	....	4	1	1	....
New London	28,421	....	2	1	23	2	....	1	1	....	....	19
Stonington (town and boro)	10,718	....	....	....	....	4	....	....	....	....	....	....
Groton (town and boro)	10,493	3	....	1	3	....	....	1	....	....	....	1
Towns under 5,000	30,863	1	....	7	....	6	....	....	1	....	1	18
LITCHFIELD CO.	**79,046**	**1**	**2**	**34**	**3**	**1**	....	....	**2**	....	**1**	**9**
*Torrington (town and boro)	24,055	....	1	....	....	1	....	....	....	....	....	....
Winchester (inc. Winsted)	9,095	....	....	....	....	....	....	....	....	....	....	....
Plymouth	6,315	....	1	1	3	....	....	....	1	....	1	1
Watertown	7,016	....	....	2	....	....	....	....	....	....	....	1
Towns under 5,000	32,565	1	....	31	....	....	....	....	1	....	....	7
WINDHAM CO.	**54,881**	**1**	....	**27**	**8**	**2**	....	....	**5**	....	**2**	**9**
Windham (inc. Willimantic)	14,265	1	....	....	....	....	....	....	....	....	....	1
Putnam (city and town)	8,994	....	....	24	....	2	....	....	1	....	2	1
Plainfield	8,465	....	....	....	....	....	....	....	....	....	....	7
Killingly (inc. Danielson)	8,905	....	....	....	....	....	....	....	4	....	....	....
Thompson	5,171	....	....	1	....	....	....	....	....	....	....	....
Towns under 5,000	9,181	....	....	2	8	....	....	....	....	....	....	....
MIDDLESEX CO.	**46,972**	....	**2**	**7**	**2**	....	....	**1**	**1**	....	**1**	**15**
Middletown (city and town)	22,554	....	....	3	....	....	....	....	....	....	....	....
Middletown State Hospital		....	....	....	....	....	....	....	....	....	....	1
Towns under 5,000	24,418	....	2	4	2	....	....	1	1	....	1	14
TOLLAND CO.	**27,567**	....	....	**2**	**6**	**3**	....	....	**2**	....	**1**	**8**
Vernon (inc. Rockville)	8,822	....	....	1	....	1	....	....	....	....	....	1
Stafford (town and boro)	5,456	....	....	....	....	1	....	....	2	....	....	....
Towns under 5,000	13,289	....	....	1	6	1	....	....	....	....	1	7

(For cases of other reportable diseases, see page 267)

*Delayed Reports

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

$20,000,000.00

IN HUMAN LIFE

LOST YEARLY DURING 1915—1919

CONNECTICUT

HAS CUT THIS LOSS

BY NEARLY

TWO MILLION DOLLARS.

PUBLIC HEALTH WORK PAYS

Index of 1924 Volume on Back Cover

STANLEY H. OSBORN, M. D., C. P. H., Commissioner.

ISSUED BY
State Department of Health
HARTFORD

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STATE DEPARTMENT OF HEALTH

PUBLIC HEALTH COUNCIL

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Telephone, 2-2205 (Exchange)

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ALL CORRESPONDENCE, except for laboratory outfits, should be directed to
CONNECTICUT STATE DEPARTMENT OF HEALTH
8 WASHINGTON STREET,
HARTFORD

CONNECTICUT

HEALTH BULLETIN

Vol. 38 December, 1924 No. 12

Issued Monthly by the

STATE DEPARTMENT OF HEALTH

HEALTH DIVIDENDS

Nearly a two million dollar dividend was returned to the people of the state in lives saved during 1923 compared to five years ago by the decrease in certain diseases.

If the economic value of an adult life is $5,000.00 and there are 100 typhoid deaths a year that would be a loss of 100×$5,000 or $500,000 in typhoid fever deaths alone, without considering the cost of 900 odd cases that recovered.

On the other hand if the economic value of a child is $1,000.00 and there are 200 deaths a year from diphtheria, the diphtheria loss in deaths would be $200,000. And if the life of babies is placed at $500 and we have 100 deaths a year from whooping cough the loss would be $50,000.

In the table on page 272 the unit valuation varies from $500 to $5,000 varying with the age distribution of deaths from the different diseases.

These methods have been used by the National Conservation Commission and when applied to Connecticut show a loss in human lives of over $20,000,000 as the average during the period 1915-1919 from the particular diseases listed in the table.

On page 272 is a table showing the money loss represented in human lives for certain diseases in the period 1915-1919 and on page 273 is the saving in human lives in terms of dollars and cents in 1923 compared with the 1915-1919 period, that has undoubtedly resulted from the preventive medicine and health work carried on by the physicians, health officers, departments of health, together with other state and local departments and voluntary health organizations.

The $20,975,600 loss has been reduced
to $19,077,000 a saving of

$1,898,600 in human life.

Almost Two Million Dollars as a Health Dividend

Certain items in this last table appear up on the wrong side of the ledger, such as the increase in venereal disease, influenza and broncho pneumonia deaths as shown in the last column. These losses if continued point out diseases in which possibly we should center our efforts in new work to wipe out this "deficit."

One can but imagine what the loss would be without health activities, and death rates of fifty years ago prevailed today.

Annual Loss—Preventable Deaths in Connecticut*

Average for Years 1915—1916

Disease	Average Deaths	Per Cent Preventable	Deaths Preventable	Unit Valuation	Monetary Loss
Typhoid fever	98	99	97	$5,000	$ 475,000
Diphtheria	214	90	193	1,000	193,000
Scarlet fever	33	85	28	1,000	28,000
Measles	102	70	71	500	35,500
Whooping cough	152	70	106	500	53,000
Poliomyelitis	66	50	33	1,000	33,000
Meningitis	87	70	61	500	30,500
Smallpox	.2	99	.2	3,000	600
Malaria	6	95	6	3,000	18,000
Tuberculosis, pulmonary	1,608	80	1,286	5,000	6,430,000
" other forms	251	80	201	3,000	603,000
Pneumonia, lobar	1,251	60	751	3,000	2,253,000
Influenza	365a	70	255	4,000	1,020,000
Venereal	853b	90	768	3,000	2,304,000
	5,086	76	3,856		$13,476,600
Diarrhoea, (under 2)	904	70	633	$ 500	$ 316,500
Bronchitis-pneumonia	861	50	430	2,000	860,000
Cancer	1,205	15	180	2,000	360,000
Circulatory	2,587c	30	776	1,500	1,164,000
Nervous	1,923d	35	673	1,500	1,009,500
Puerperal	178	70	125	3,000	375,000
Violence	1,206	50	603	3,000	1,809,000
All others	5,349	10	535	3,000	1,605,000
Totals	19,299	40	7,811		$20,975,600

(a) Excluding Influenza epidemic figures.
(b) Reported cases plus 10 per cent Circulary and Nervous and 5 per cent all other.
(c) Less 10 per cent deducted and added to Venereal.
(d) Less 5 per cent deducted and added to Venereal.
*From 1919-1920 Annual Report.

THE 1923 ACCOUNT

Disease	Annual Average Preventable Loss 1915-1919	1923	Savings Effected Gain	Loss
Typhoid Fever	$ 475,000	$ 190,000	$ 285,000	
Diphtheria	193,000	168,000	25,000	
Scarlet Fever	28,000	45,000		$17,000
Measles	35,500	56,000		20,500
Whooping Cough	53,000	46,000	6,500	
Poliomyelitis	33,000	5,000	28,000	
Meningitis	30,000	16,000	14,500	
Smallpox	600	3.000		2,400
Malaria	18,000	6,000	12,000	
Tuberculosis pulmonary	6,430,000	4,665,000	1,765,000	
" other forms	603,000	366,000	237,000	
Pneumonia, Lobar	2,253,000	1,509,000	744,000	
Influenza	1,020,000	1,472,000		452,000
Venereal	2,304,000	2,700,000		396,000
Diarrhoea, (Under 2)	136,500	110,000	206,500	
Broncho Pneumonia	860,000	1,038,000		178,000
Cancer	360,000	434,000		74,000
Circulatory	1,164,000	1,050,000	114,000	
Nervous	1,009,500	937,500	72,000	
Puerperal	375,000	384,000		9,000
Violence	1,809,000	1,656,000	153,000	
All Other	1,605,000	2,220,000		615,000
Totals	$20,975,600	$19,077,000	$3,662,500	$1,763,900
Net Savings represented by lessened deaths				$1,898,600

No attempt has been made to compute in money value the dividend in health returned to the state by a decreased number of cases of disease.

The Decrease in Cases of Certain Communicable Diseases in Connecticut 1920—1923

Diseases	Cases of Disease Reported 1920	1921	1922	1923
Typhoid Fever	426	460	315	295
Diphtheria	3754	3361	2924	2427
Scarlet Fever	4028	4001	3132	3372
Whooping Cough	3649	2905	2109	2758
Smallpox	2	8	447*	52
Tuberculosis of Lungs	1905	1828	1605	1555

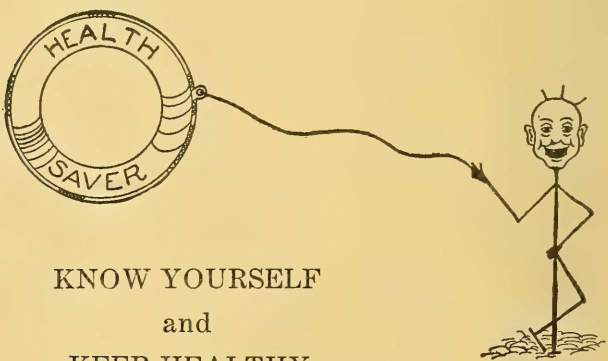
*Increase due to epidemic in towns and cities where a "community immunity" to smallpox by vaccination had not been created by the immunization of children entering the schools.

Death Rates of Certain Diseases in Connecticut 1920—1923

Diseases	Average death rate 1915-1919	Death Rates per 100,000 population 1920	1921	1922	1923
Typhoid	7.5	4.2	3.4	3.0	2.6
Diphtheria	15.8	16.9	12.4	12.7	12.7
Scarlet Fever	2.4	5.3	7.2	4.3	3.6
Measles	7.6	9.8	3.0	7.3	10.8
Whooping Cough	11.3	15.6	9.6	5.7	9.0
Tuberculosis of Lungs	119.5	103.4	83.5	82.8	79.0
Tuberculosis (all forms)	138.6	118.5	95.6	92.7	89.3
Smallpox	0.02	0.0	0.0	0.4	0.1

It will be noticed that the scarlet fever death rate has been high the past four years. Physicians, laboratory workers and other investigators have been constantly studying several of the diseases such as scarlet fever and cancer over which we have but little control. During this year we have seen the development of the Dick Test whereby we can determine who are susceptible to scarlet fever, and the toxin for scarlet fever with which children can be immunized against this disease. The material is not yet on the market but the outlook is favorable for its appearance in 1925. Then we will have **one more** disease that must submit to the control by physicians and health officers,—and parents; for it is the parents who must ask to have their children protected by immunization against such diseases as smallpox, typhoid fever and diphtheria.

Year by year the possibilities become the accomplishments and we are now looking forward to what the new year will disclose.



KNOW YOURSELF

and

KEEP HEALTHY

by having

AN ANNUAL

PHYSICAL EXAMINATION

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF November, 1924

A comparison of the daily morbidity reports received during the month of November, 1924, with the corresponding month for the years 1919, 1920, 1921, 1922 and 1923.

Certain Diseases	Average 1919-1923 for Nov.	Mean 1919-1923 for Nov.	1919	1920	1921	1922	1923	1924
Cerebrospinal Meningitis ..	6	6	5	6	5	7	9	3
Diphtheria	440	401	576	574	384	401	264	221
Encephalitis Epidemic (Not reportable till 1921)				1	......	1	2	4
Measles	496	473	473	390	395	653	571	22
Poliomyelitis	6	5	1	10	5	5	9	3
Scarlet Fever	371	358	358	476	301	375	343	432
Smallpox	1	......	......	......	......	3	2	4
Typhoid Fever	31	28	43	45	28	18	22	12
Tuberculosis (pulmonary)	141	149	164	166	106	149	119	115
Whooping Cough	211	186	167	343	114	246	186	302

A comparison of the morbidity on these diseases for the two preceding months, September and October with the November record is as follows:

	September	October	November
Cerebrospinal Meningitis	6	4	3
Diphtheria	112	173	221
Encephalitis Epidemic	4	6	4
Measles	21	24	22
Poliomyelitis	34	19	3
Scarlet Fever	103	247	432
Smallpox	......	......	4
Typhoid Fever	38	30	12
Tuberculosis (pulmonary)	128	122	115
Whooping Cough	171	204	302

Cases of other Reportable Diseases November, 1924

Chickenpox	245	Paratyphoid Fever	2
Conjunctivitis Infectious	11	Septic Sore Throat	10
(Ophthalmia Neonatorum)	2	Smallpox	4
Encephalitis Epidemic	4	Tetanus	2
German Measles	17	Chancroid	1
Influenza	20	Gonorrhoea	126
Malaria	2	Syphilis	124
Mumps	66	Total	636

Cases of Occupational Diseases

Acute Eczema	1
Lead Poisoning	3
Occupational Dermatitis	1
Papular Eczema	1
Total	6

Cases of Certain Reportable Diseases

November, 1924	Population Based on U. S. Census Est. as of July 1, 1924	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Cerebrospinal Meningitis	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com Diseases
State Total	1,502,405	12	22	432	302	221	3	3	115	10	125	636
NEW HAVEN CO.	**451,336**	**6**	**15**	**147**	**110**	**50**	....	**2**	**38**	**6**	**41**	**167**
New Haven	175,827	2	11	96	45	1	....	....	24	4	22	91
Waterbury	100,291	....	....	15	13	25	....	2	6	1	5	34
Meriden (city and town)	36,014	1	....	2	3	5	....	....	4	....	4	17
Ansonia	18,798	....	....	2	....	10	....	....	1	....	....	2
West Haven	17,354	....	....	2	1	....	....	....	....	....	3	3
Naugatuck	16,130	....	....	....	....	....	....	....	....	....	....	1
Wallingford (town and boro)	12,405	1	....	2	1	3	....	....	....	....	....	3
Milford	12,893	1	....	1	....	1	....	....	....	....	....	4
Derby	12,279	....	....	....	....	2	....	....	1	....	....	1
Hamden	9,890	....	....	2	7	....	....	....	....	1	3	3
Branford (town and boro)	6,895	....	....	....	....	....	....	....	....	....	....	1
Seymour	7,705	....	4	8	3	....	....	....	1	....	....	....
Towns under 5,000	24,855	1	....	17	37	3	....	....	1	....	4	7
FAIRFIELD CO.	**355,984**	**2**	**5**	**74**	**47**	**79**	....	....	**33**	....	**36**	**122**
Bridgeport	162,491	....	1	32	1	33	....	....	24	....	27	32
Stamford (city and town)	45,157	....	1	15	5	2	....	....	2	....	....	39
Norwalk	22,292	....	1	2	....	8	....	....	....	....	1	5
Danbury (city and town)	21,981	....	....	2	....	1	....	....	2	....	2	....
Greenwich (town and boro)	24,674	2	....	5	27	6	....	....	1	....	3	8
Stratford	15,422	....	1	3	3	16	....	....	2	....	3	11
Fairfield	13,950	....	....	1	2	6	....	....	1	....	....	1
Shelton	10,833	....	1	5	3	1	....	....	....	....	....	....
Westport	5,509	....	....	5	....	5	....	....	....	....	....	....
Towns under 5,000	26,675	....	....	4	6	1	....	....	1	....	....	26
HARTFORD CO.	**375,816**	**2**	**1**	**92**	**68**	**55**	**1**	**1**	**30**	**4**	**40**	**186**
Hartford	156,169	1	1	21	10	14	....	....	22	....	12	114
New Britain	66,370	1	....	53	2	24	1	....	7	2	16	8
Bristol (city and town)	23,918	....	....	7	1	1	....	....	....	....	4	14
Manchester	20,561	....	....	3	3	....	....	....	....	2	....	7
Enfield	12,629	....	....	2	19	....	....	....	....	....	2	....
East Hartford	13,274	....	....	1	9	....	....	....	....	....	....	6
Southington (town and boro)	9,331	....	....	....	22	4	....	....	....	....	1	7
West Hartford	10,729	....	....	1	2	....	....	....	....	....	2	10
Windsor	6,287	....	....	....	....	....	....	....	....	....	....	....
Glastonbury	5,960	....	....	....	....	....	....	....	....	....	....	3
Towns under 5,000	50,588	....	....	4	....	12	....	1	1	....	3	17
NEW LONDON CO.	**110,803**	....	....	**12**	**62**	**16**	**1**	....	**2**	....	**4**	**73**
Norwich (city and town)	30,303	....	....	5	....	7	....	....	....	....	1	11
New London	28,421	....	....	3	48	2	....	....	....	....	....	20
Stonington (town and boro)	10,718	....	....	....	....	2	1	....	....	....	....	27
Groton (town and boro)	10,493	....	....	2	14	1	....	....	....	....	2	5
Towns under 5,000	30,863	....	....	2	....	4	....	....	2	....	1	10
LITCHFIELD CO.	**79,046**	....	....	**49**	**1**	**14**	....	....	**3**	....	**3**	**39**
Torrington (town and boro)	24,055	....	....	....	....	....	....	....	....	....	....	2
Winchester (inc. Winsted)	9,095	....	....	....	....	....	....	....	....	....	....	....
Plymouth	6,315	....	....	....	....	....	....	....	....	....	1	....
Watertown	7,016	....	....	....	....	....	....	....	1	....	....	....
Towns under 5,000	32,565	....	....	49	1	14	....	....	2	....	2	37
WINDHAM CO.	**54,881**	**1**	....	**21**	**10**	**2**	**1**	....	**3**	....	....	**4**
Windham (inc. Willimantic)	14,265	....	....	1	....	....	1	....	1	....	....	2
Putnam (city and town)	8,994	....	....	13	....	....	....	....	....	....	....	....
Plainfield	8,465	....	....	1	....	....	....	....	2	....	....	1
Killingly (inc. Danielson)	8,905	1	....	....	....	2	....	....	....	....	....	....
Thompson	5,171	....	....	4	....	....	....	....	....	....	....	....
Towns under 5,000	9,181	....	....	2	10	....	....	....	....	....	....	1
MIDDLESEX CO.	**46,972**	**1**	**1**	**32**	....	**2**	....	....	**2**	....	....	**27**
Middletown (city and town)	22,554	1	....	11	....	....	....	....	....	....	....	1
Middletown State Hospital		....	....	....	....	....	....	....	1	....	....	4
Towns under 5,000	24,418	....	1	21	....	2	....	....	1	....	....	22
TOLLAND CO.	**27,567**	....	....	**5**	**4**	**3**	....	....	**4**	....	**1**	**18**
Vernon (inc. Rockville)	8,822	....	....	2	....	....	....	....	....	....	1	....
Stafford (town and boro)	5,456	....	....	....	....	....	....	....	....	....	....	1
Towns under 5,000	13,289	....	....	3	4	3	....	....	4	....	....	17

(For cases of other reportable diseases, see page 275)

Vital Statistics

MONTH OF OCTOBER, 1924

Births

Following the general trend of the year the total number of births this month is lower than for last month and lower than October, 1923. The figures are October, 1924, total births 2,368; October, 1923, 2,440; September, 1924, 2,425. From this it is evident that the births decreased 57 since September, and are 72 less than for October, 1923. The average number of births for October in the five year period 1919-1923 is 2,712. The October, 1924, figure of 2,368 is therefore, 344 below the five year average.

Of the towns exceeding 5,000 population only six show an increase of 10 or more births over last year's figure. The following table gives the town and the actual increase in the number of births.

Waterbury	49	Norwalk	10	Manchester	18
Hartford	36	Danbury	12	Stamford	15

There were 82 stillbirths this month as compared with the 98 for October, 1923. The total of births and stillbirths for this month is 2,450, of which the 83 stillbirths constitute 3.3 per cent.

Deaths

The total number of deaths reported this month is 1,393, an increase of 131 over the 1,262 of October, 1923. From last month's report it will be recalled that this year the death rate in January was below that of January, 1923. As the months passed the two rates converged until September when they were practically the same. This month the rate is 11.1, and rises above the 10.3 for last year. If this increased rate continues through November and December it will cut down the gain made in January and February, but unless it increases very sharply it will not make the yearly rate exceed that of last year.

In the table below is pictured the number of deaths caused by certain important diseases with the increase or decrease of the same over last year.

CAUSE OF DEATH	1924	1923	INCREASE	DECREASE
Diseases of the Heart	207	169	38	......
Epidemic Encephalitis	2	4	......	2
Pneumonia Undefined	4	2	2	......
Typhoid Fever	4	9	......	5
Measles	......	4	......	4

Scarlet Fever	4	......	4	......
Whooping Cough	7	4	3	......
Diphtheria	16	10	6	......
Influenza	11	9	2	......
Tuberculosis, Pulmonary	83	83	......	......
Tuberculosis, Other forms	19	17	2	......
Cancer	138	108	30	......
Cerebrospinal Meningitis	2	3	......	1
Poliomyelitis	5	1	4	......
Pneumonia, Lobar	46	28	18	......
Pneumonia, Broncho	48	38	10	......
Diarrhoea and Enteritis, Under 2	34	38	......	4
Puerperal Diseases	14	12	2	......
Suicide	15	19	......	4
Accident	90	95	......	5
Homicide	2	7	......	5
Other Causes	642	602	40	......
Total	1,393	1,262	161	30

From the above table we can pick out several causes of death which played an important part in making up the 131 increase for this month.

Prominent among these are heart disease and cancer with increases of 38 and 30 respectively. From the public health standpoint these two diseases are assuming increasing importance. In the past the health official has concentrated on sanitary science and communicable disease control We have seen the benefit of this in reduced death rates from typhoid, diphtheria, tuberculosis, etc. While this creditable work was being done the mortality from certain organic diseases, or non-communicable diseases, slowly but steadily increased. The figures quoted for this month are striking examples of what is occurring not only in Connecticut, but also throughout the United States.

Another addition to the rising death curve is found in the pneumonia deaths. Lobar pneumonia increased from 28 to 46, and broncho from 38 to 48. The total number of deaths from these causes is 94 or slightly more than twice as many deaths (44) as occurred from these causes in September, 1924.

The total number of deaths by accident was 90 which is a decrease of 5 below the 95 of October, 1923. Of these 90 deaths, 25 or 27.7 per cent are the result of automobile accidents. In October, 1923, there were 95 deaths by accident, of which 40 or 42.1 per cent were the result of automobile accidents. There appears to be a marked decrease in fatalities from this type of accident.

Marriages

There were registered this month a total of 1,348 marriages, which is 166 lower than for October, 1923. The average number of marriages for the five year period, 1919-1923, is 1,506, from which it is evident that this month is 158 below the five year average.

Six Year Study—October, 1919-1924

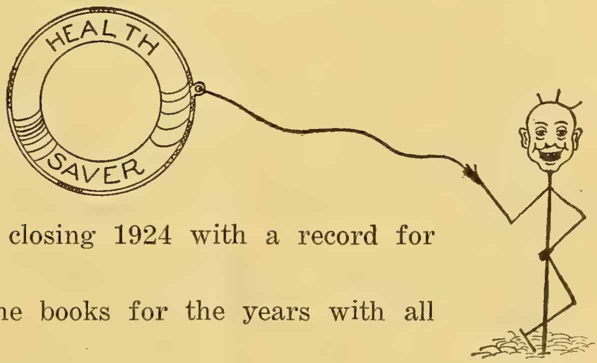
CONNECTICUT	1919	1920	1921	1922	1923	1924
BIRTHS	3145	2757	2665	2554	2440	2368
Birth Rate	25.8	23.7	22.5	21.2	19.8	18.9
MARRIAGES	1567	1569	1439	1445	1514	1348
Marriage Rate	12.8	13.5	12.2	12.0	12.3	10.8
DEATHS	1281	1308	1300	1323	1262	1393
Death Rate	10.5	11.3	11.0	11.0	10.3	11.1
COMMUNICABLE DIS.* DEATHS	170	159	144	143	123	132
Per Cent to Total Deaths	13.3	12.2	11.1	10.8	9.7	9.5
DEATHS UNDER 1 YEAR	217	234	212	184	170	164
Rate per 1000 births	76.5	82.1	74.6	70.6	66.5	63.2

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

Towns from which no report has been received, October, 1924*

BIRTHS	MARRIAGES	DEATHS
Bolton	Milford	Coventry
Milford	Newtown	Madison
Old Lyme	Waterford	Milford
Waterford		Old Lyme
		Waterford

***This bulletin goes to press the 5th of each month.**



Registrars are closing 1924 with a record for prompt returns

Let us close the books for the years with all reports in

How about Yours?

Births, Marriages and Deaths

October Statistics 1924	Population Based on U. S. Census Est. as of July 1, 1924	TOTALS: Births	Still Births	Marriages	Deaths	DEATH RATES: All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	AGE GROUPS: Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,502,405	2368	82	1348	1393	11.1	0.7	63.2	164	58	501
Ansonia	18,798	29	1	11	9	5.7	....	141.2	4	....	3
Branford	6,895	8	....	7	7	12.2	....	....	....	....	5
Bridgeport	162,491	255	8	127	123	9.1	0.8	40.4	11	4	35
Bristol	23,918	44	2	16	20	10.0	0.5	107.7	5	3	8
Danbury	21,981	41	....	22	30	16.4	1.6	90.4	4	1	14
Derby	12,279	33	....	13	12	11.7	1.0	82.2	3	....	2
East Hartford	13,274	9	....	13	7	6.3	0.9	....	....	....	4
Enfield	12,629	24	....	16	16	15.2	1.9	202.0	5	....	5
Fairfield	13,950	23	....	8	6	5.2	....	115.9	2	....	2
Glastonbury	5,960	9	....	7	3	6.0	....	....	....	....	....
Greenwich	24,674	40	....	50	24	11.7	....	82.1	3	2	7
Groton	10,493	3	....	9	5	5.7	....	....	....	....	....
Hamden	9,890	18	....	7	5	6.1	1.2	....	....	....	1
Hartford	156,169	321	15	178	150	11.5	0.8	55.8	18	3	49
Killingly	8,905	14	1	11	6	8.1	1.3	70.0	1	....	2
Manchester	20,561	38	4	12	16	9.3	0.6	29.1	1	....	6
Meriden	36,014	45	....	37	45	15.0	1.0	15.7	1	1	15
Middletown	22,554	43	3	23	33	17.6	0.5	40.0	2	2	13
Milford	12,893	....	....	....	....	....	....	....	....	....	....
Naugatuck	16,130	11	1	8	7	5.2	....	....	....	1	3
New Britain	66,370	117	2	55	61	11.0	0.5	86.8	12	8	10
New Haven	175,827	304	11	185	185	12.6	0.3	72.8	24	9	65
New London	28,421	57	1	19	34	14.4	0.8	127.3	8	....	16
Norwalk	29,292	50	3	31	27	11.1	1.2	....	....	1	13
Norwich	30,303	61	2	34	31	12.3	0.8	45.4	3	2	11
Plainfield	8,465	7	1	6	3	4.3	....	75.0	1	....	2
Plymouth	6,315	3	....	6	4	7.6	1.9	....	....	....	3
Putnam	8,894	23	1	8	15	20.2	1.3	....	....	....	3
Seymour	7,705	6	....	9	2	3.1	1.6	....	....	....	1
Shelton	10,833	8	1	9	13	14.4	1.1	....	....	1	2
Southington	9,331	12	1	6	11	14.1	2.6	61.2	1	1	2
Stafford	5,456	15	2	8	12	26.4	....	....	....	1	6
Stamford	45,157	94	5	42	58	15.4	0.3	157.3	14	2	26
Stonington	10,718	9	....	12	10	11.2	....	145.4	2	1	4
Stratford	15,422	23	....	9	8	6.2	....	....	....	1	4
Thompson	5,171	10	....	2	1	2.3	....	104.3	1	....	....
Torrington	24,055	33	....	25	29	14.5	0.5	106.7	4	1	9
Vernon	8,822	9	....	12	16	21.8	1.4	183.2	2	....	6
Wallingford	12,405	15	1	4	9	8.7	....	65.6	1	....	3
Waterbury	100,291	195	3	81	78	9.3	0.7	80.0	15	3	21
Watertown	7,016	7	....	2	1	1.7	1.7	....	....	....	1
West Hartford	10,729	11	....	8	6	6.7	....	....	....	....	4
West Haven	17,354	30	2	16	23	15.9	1.4	32.3	1	....	4
Westport	5,509	8	....	2	6	13.1	....	....	....	....	3
Winchester	9,095	14	1	16	9	11.9	....	....	....	....	2
Windham	14,265	31	3	11	10	8.4	....	33.2	1	1	1
Windsor	6,287	2	1	4	3	5.7	....	....	....	....	2
Towns under 5,000	212,439	206	6	151	204	11.5	0.5	56.4	14	9	103

for the Month of September, 1924

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
207	2	4	4	......	4	7	16	11	83	19	138	2	5	46	48	34	14	90	15	2	499	255
1	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	1	......	......	......	......	......	......
4	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......		
21	......	......	2	......	1	1	1	2	11	2	11	......	1	1	4	......	4	8	1	......	58	16
3	......	......	......	......	......	......	......	......	......	......	4	......	......	......	......	......	......	......	......	......	1	......
7	......	......	......	......	......	......	1	......	2	......	6	......	2	......	......	1	......	1	......	......	10	4
1	......	......	......	......	......	1	......	1	......	......	2	......	......	......	......	......	......	2	......	......	6	3
3	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	
3	......	......	......	......	......	1	......	......	1	......	......	......	......	1	1	1	......	1	......	......	1	......
......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	1
......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	1	......	......	......	1
3	......	......	......	......	......	......	1	......	1	......	2	......	......	1	3	1	......	3	2	......	6	8
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1
......	......	......	......	......	......	......	......	......	1	......	1	......	......	......	......	......	......	1	......	......	......	......
20	......	......	......	......	1	......	1	......	3	1	21	......	......	12	10	8	......	13	1	......	89	43
1	......	......	......	......	......	......	......	......	1	......	2	......	......	......	......	1	......	......	......	......	......	1
1	......	......	......	......	......	......	......	......	1	......	1	......	......	1	1	1	1	2	......	......	4	3
3	......	......	......	......	......	......	......	1	2	1	6	......	......	2	1	......	1	3	1	......	17	9
6	......	......	......	......	......	1	......	......	3	......	1	......	......	2	1	1	......	......	1	......	20	14
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
5	2	......	......	......	1	......	3	2	2	......	5	......	......	4	2	4	3	3	......	1	21	5
26	......	......	......	......	......	1	1	......	3	7	21	2	2	9	6	3	......	10	2	1	81	32
5	......	......	......	......	......	......	......	1	......	......	1	......	......	2	3	......	......	3	......	......	14	6
4	......	1	......	......	......	......	......	1	3	1	2	......	......	2	1	......	2	2	......	......	9	5
2	......	......	1	......	......	......	......	......	3	......	2	......	......	1	1	......	......	1	......	......	13	3
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	1	......	1	......	......	......	......	......	......	......	......	......	......	......
3	......	......	......	......	......	......	......	......	1	......	2	......	......	......	......	......	1	3	......	......	8	4
......	......	......	......	......	......	......	......	......	10	......	1	......	......	......	......	......	......	......	......	......	9	9
2	......	......	......	......	......	......	2	......	2	......	1	......	......	......	......	1	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	2	......	......	4	4
9	......	......	......	......	1	......	2	......	......	......	3	......	......	2	......	4	1	3	......	......	22	6
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	1	1	......	......	......
1	......	......	......	......	......	......	1	......	......	......	2	......	......	......	2	......	......	......	1	......	......	......
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	1	1	1	5	......	......	2	......	......	......	5	......	......	11	2
4	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	2	2
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	3	......	......	2	......
10	......	......	......	......	......	1	2	......	2	1	8	......	......	......	2	1	......	8	1	......	29	7
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	......	......	......	1	1
3	......	......	......	......	......	......	......	......	7	1	4	......	......	......	......	......	......	......	2	......	8	6
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	2	2
......	......	......	1	......	......	......	......	......	......	1	2	......	......	......	......	......	......	......	......	......	4	2
2	......	......	......	......	......	......	......	1	......	......	1	......	......	......	......	......	......	1	......	......	5	3
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	1	......	......	......	1	......
42	......	3	......	......	......	1	1	1	21	2	12	......	......	3	9	5	......	9	2	......	41	51

Laboratories

REPORT OF THE LABORATORY FOR THE MONTH OF

November, 1924

DIAGNOSTIC DIVISION

	+	—	?	Total
Typhoid				
Blood for Widal	5	20	....	25
Feces	....	8	....	8
Urine	....	7	....	7
Paratyphoid A	....	25	....	25
Paratyphoid B	....	25	....	25
Diphtheria Cultures				
Diagnosis	196	518	....	714
Release	94	426	....	520
Vincent's Angina	2	681	....	683
Haemolytic Streptococci	55	627	....	682
Diphtheria Carriers				
Diagnosis	395	1925	....	2320
Release	174	802	....	976
Diphtheria Virulence ..	13	45	....	58
Tuberculosis	16	85	....	101
Syphilis	141	1104	110	1355
Colloidal Gold Test for				
Spinal Fluids	2	6	1	9
Gonorrhoea	17	85	1	103
Pneumonia				
Type IV	1	....	....	1
Malaria	1	2	....	3
Rabies	2	1	....	3
Feces				
Amoebic Dysentery ..	....	2	....	2
Bacillary Dysentery..	....	5	....	5
Special Specimens	2	6	....	8
Totals	1116	6405	112	7633

CHEMICAL DIVISION

Towns sending milk samples	16
Milk samples tested	209
Milk samples below fat standard	0
Milk samples indicating watering	0
Towns sending water samples	61
Water samples examined	110
Sewage samples examined	1
Total samples examined by chemical analysis	320
TOTAL SPECIMENS AND SAMPLES EXAMINED	7953

Index of Volume 38, 1924, Monthly Health Bulletin

Index of Volume 38, 1924, Monthly Health Bulletin (cont.)

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 39 January, 1925 No. 1

This Issue Contains

STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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HARTFORD

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CONNECTICUT
HEALTH BULLETIN

Vol. 39 | January, 1925 | No. 1

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STATE DEPARTMENT OF HEALTH

CATCHING TUBERCULOSIS FROM A COW

While it is well known that tuberculosis in cattle may be conveyed to children through milk, it is not always easy to trace infection to that source. In a recent investigation by the Connecticut State Department of Health, evidence was found pointing toward infection of four children by drinking raw milk from tuberculous cows.

In the case in question two families purchased raw milk from a neighbor who kept about twenty cows and sold most of his milk to a large distributor who pasteurized it before delivering it to customers. The only milk sold and consumed raw from this herd was that purchased by the two families most of which was consumed by the children, two in each family.

One family began to purchase the milk in July, 1922, and continued until April, 1924. The other began using the milk some time in 1922 and continued for nearly two years or until February, 1924. In the first family both the children, aged 11 and 9 years respectively, began to fail about October or November, 1923. The older child became very ill in November and died the last of the month of tubercular meningitis. The younger child, after discontinuing the use of the milk from the neighbor's farm in April, gradually improved in health and strength.

The two children in the other family, aged 10 and 12 years respectively became ill in December, 1923. The younger child gradually became worse and died in April, 1924, with tuberculosis of the lymph glands in the neck, of about four months duration and acute miliary tuberculosis of the lungs that had been developing for about three months. The older child in this family gradually became worse. In May, 1924, at an operation undertaken for another purpose, this child was found to have tuberculosis of the peritoneum with involvement of the mesenteric glands. Later the child de-

veloped tuberculosis of the glands in the neck. At last accounts this child was gradually improving. Use of the infected milk had been discontinued in February, 1924.

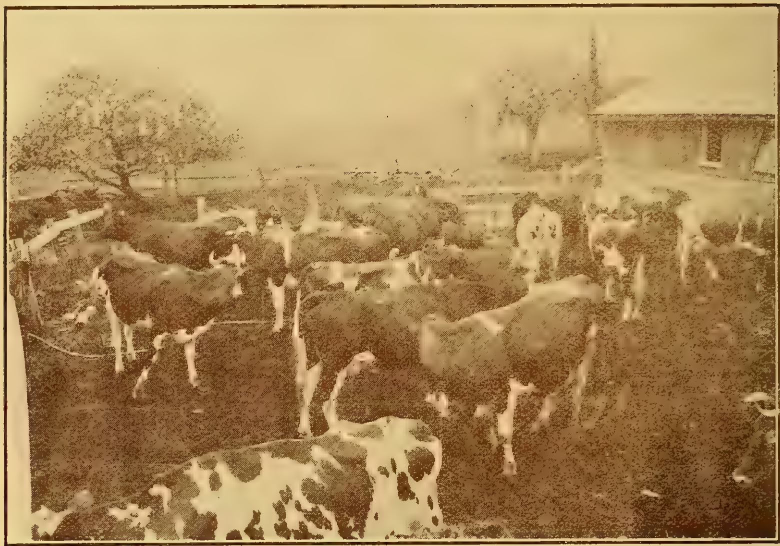

Figure 1. Tuberculous Cows

Four children drinking raw milk from this herd developed tuberculosis. The cows look well but all reacted to the tuberculin test and all were found to be tuberculous at time of slaughter.

Suspicion having been directed toward the dairy, the matter was referred to the State Commissioner on Domestic Animals. A veterinarian sent to examine the cows was unwilling to make a diagnosis of tuberculosis upon the basis of physical examination alone. From the accompanying picture it may be noted that the cows looked well and had not yet reached the last stages of the disease. The tuberculin test was given and all cows in the herd reacted. When slaughtered, tuberculous lesions were found in each of the cows. In nine instances the lungs were diseased, the tissues involved being extensive in one case, marked in two, and slight in the other six. The mediastinal and bronchial glands were diseased in most cases, and in some instances other parts of the body were diseased.

Of particular interest is one cow which had tuberculosis of the lymph glands about the udder. It is said that the germs of tuberculosis reach the milk either from disease of the udder or from cow manure which gets into the milk. Cows with tuberculosis of the lungs cough up and swallow the germs which in turn pass through and escape with the feces. It is practically impossible to protect milk from contamination by

such infected discharges. Thus finding one of the cows with tuberculosis of the udder and half of them with tuberculosis of the lungs would indicate that ample opportunity existed for the germs to get into the milk and infect persons who drank it.

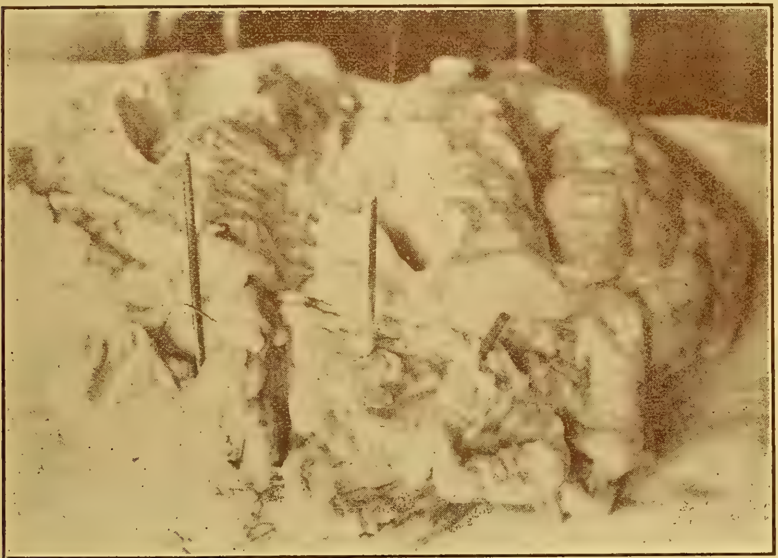

Figure 2. Tuberculous udder from one of the cows shown in Figure 1. Wooden pins point to diseased glands. Germs of tuberculosis from a diseased udder readily find their way into the milk. The udder is diseased in from 1 to 2 per cent of all tuberculous cows.

At the time the investigation was undertaken, it was not possible to obtain material for determining definitely whether the germs infecting any of the children were of bovine or human origin. The circumstances of the case, however, appeared to make it probable that the infection came from cows. The four children were drinking raw milk from cows known to be tuberculous though the disease in the cows had not progressed to the point of great emaciation. All four children began to show symptoms at about the same time suggesting that the germs might have begun to appear in the milk shortly before the symptoms in the children began. At any rate this idea is consistent with the known facts in the situation. Two of the children have died and the other two at last accounts were improving in health after discontinuing use of the infected milk. Should these two children fully recover from the last attack there is a possibility that in later life the old tuberculous process may be lighted up into a new attack of tuberculosis.

Figure 3. Tuberculous lung from one of the cows shown in Figure 1. Both lungs are cut through to show condition of tissue. One is healthy, but the other (to left of picture) contains several tubercular abcesses filled with thick pus. Germs of tuberculosis from diseased lungs are coughed up, swallowed and pass through the body unharmed. They may enter the milk with the manure which is usually a contaminating agent.

While it is true that the bovine type of tubercle bacillus or germ is not often found in adults some authorities think long residence in the human body may cause the germ to change from the bovine to the human type. It is the view of these authorities that tuberculosis in adults is often due to bovine infection obtained through milk in childhood. Other authorities hold the view that the bovine and human types of germs are stable and that one type does not change to the other as a result of long growth in the same environment. Definite knowledge on this point is lacking.

It is known, however, that among children studied for the type of germ responsible for their tuberculosis, 23 per cent of generalized tuberculosis, 40 per cent of tuberculosis of the cervical glands and 49 per cent of tuberculosis of abdominal organs were found to be due to infection with the bovine variety of germ. These figures show that during childhood tuberculous infection often comes from milk. In pulmonary tuberculosis in adults, however, the bovine variety is rare, having been found in 4 cases out of 732 studied for this purpose. Thus it would appear that as a rule tuberculosis is transferred from man to man and that the bovine variety is much more important in childhood than in adult life.

Another interesting instance of the infection of children by drinking milk from a tuberculous cow was reported from Ohio two or three years ago. In this case the cow had been tested and found to be tuberculous. The owner removed the identifying tag from the cow's ear and gave her to his hired man who had a family of 7 children. Two of the children and the father and mother did not drink the milk from this cow and did not become infected. The other 5 children drank milk from the cow and all became infected. A pig and a cat also drank the milk and developed tuberculosis. The cat had a brood of kittens and they developed tuberculosis when they began drinking the milk. Another cow on the farm also developed tuberculosis.

With reference to the likelihood of market milk containing the germs of tuberculosis, a number of studies have been made in various cities in this country indicating that from 5 to 16 per cent of market milk samples contain these germs. This, of course, refers to raw milk, as living germs are not found in properly pasteurized milk. Out of 551 samples of milk examined in various cities, 46 or 8.3 per cent were found to contain tubercle bacilli. These examinations were made some years ago. Owing to the elimination of tuberculous cows from many herds and the more extended use of pasteurization the hazard to the city dweller from tubercle bacilli in milk is probably much less than formerly. When all cows are either proven free from tuberculosis by the tuberculin test or their milk is pasteurized before it is used, the hazard of bovine tuberculosis will be removed.

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF DECEMBER, 1924

A comparison of the daily morbidity reports received during the month of December, 1924, with the corresponding month for the years 1919, 1920, 1921, 1922 and 1923.

Certain Diseases	Average 1919-1923 for Dec.	Mean 1919-1923 for Dec.	1919	1920	1921	1922	1923	1924
Cerebrospinal Meningitis ..	3	4	3	4	1	4	4	1
Diphtheria	426	375	504	575	375	370	305	293
Encephalitis Epidemic (Not reportable till 1921)				1	2	2	......	7
Measles	719	683	683	251	542	1234	886	71
Poliomyelitis	3	3	1	......	3	2	7	2
Scarlet Fever	499	474	493	683	411	436	474	824
Smallpox	2	3	5	......	3	2	1	......
Typhoid Fever	23	17	16	40	17	14	27	33
Tuberculosis (pulmonary ..	120	114	104	176	92	116	114	107
Whooping Cough	238	226	226	415	155	280	116	222

A comparison of the morbidity on these diseases for the two preceding months, October and November with the December record is as follows:

	October	November	December
Cerebrospinal Meningitis	4	3	1
Diphtheria	173	221	293
Encephalitis Epidemic	6	4	7
Measles	24	22	71
Poliomyelitis	19	3	2
Scarlet Fever	247	432	824
Smallpox	......	4	......
Typhoid Fever	30	13	33
Tuberculosis (pulmonary)	122	115	107
Whooping Cough	204	302	222

Cases of other Reportable Diseases
December, 1924

Chickenpox	308	Hookworm Infection	1
Conjunctivitis Infectious	9	Influenza	42
(Ophthalmia Neonatorum)	1	Mumps	84
Dysentery (Bacillary	4	Septic Sore Throat	28
Encephalitis Epidemic	7	Tetanus	2
Favus	1	Gonorrhoea	94
German Measles	119	Syphilis	118
Chancroid	1	Total	819

Cases of Occupational Diseases

Hernia and Mercurial Poisoning	1
Lead Poisoning	2
Eczema	1
Total	4

Cases of Certain Reportable Diseases

December, 1924	Population Based on U. S. Census Est. as of July 1, 1924	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Cerebrospinal Meningitis	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com Diseases
State Total	1,502,405	33	71	824	222	293	1	2	107	10	131	819
NEW HAVEN CO.	**451,336**	**11**	**54**	**235**	**69**	**84**			**41**	**6**	**46**	**338**
New Haven	175,827	5	51	136	38	11			24	4	20	236
Waterbury	100,291	1	2	31	5	42			6	1	19	30
Meriden (city and town)	36,014	5		6	8	7			3		3	22
Ansonia	18,798			7		4			3		1	6
West Haven	17,354			5	3	2					1	3
Naugatuck	16,130											1
Wallingford (town and boro)	12,405			7		7			1			9
Milford	12,893			3		1					1	
Derby	12,279			3		1			1			2
Hamden	9,890			7	12				2			15
Branford (town and boro)	6,895					1			1	1		1
Seymour	7,705			5	1	2						1
Towns under 5,000	24,855		1	25	2	6					1	12
FAIRFIELD CO.	**355,984**	**14**	**7**	**127**	**40**	**82**			**23**		**27**	**104**
Bridgeport	162,491	5	1	64	1	35			18		17	37
Stamford (city and town)	45,157	1	5	30	24	10			2		3	30
Norwalk	22,292	1			1	19						3
Danbury (city and town)	21,981			6		1					2	3
Greenwich (town and boro)	24,674	4		6	10	1			1		3	16
Stratford	15,422			4	1	8					1	
Fairfield	13,950	1		2	1	2			1			
Shelton	10,833			8		3						4
Westport	5,509	2		4		3					1	1
Towns under 5,000	26,675		1	3	2				1			10
HARTFORD CO.	**375,816**	**3**	**8**	**312**	**47**	**101**	**1**	**2**	**25**	**4**	**38**	**192**
Hartford	156,169		3	38	9	40			10	1	12	80
New Britain	66,370	2		100	2	28		1	8	3	10	16
Bristol (city and town)	23,918		5	121	7	19	1		1		7	4
Manchester	20,561	1		12	5				2		1	8
Enfield	12,629			2	18	4					1	4
East Hartford	13,274			4	2	1			1		1	1
Southington (town and boro)	9,331			3		1			1		1	6
West Hartford	10,729			9	4	1					3	46
Windsor	6,287											1
Glastonbury	5,960											
Towns under 5,000	50,588			23		7		1	2		2	26
NEW LONDON CO.	**110,803**	**1**	**1**	**38**	**60**	**13**			**8**		**5**	**32**
Norwich (city and town)	30,303			18		10			3			4
New London	28,421			1	36				1			11
Stonington (town and boro)	10,718	1		3		1						1
Groton (town and boro)	10,493			11	21	2			1		1	8
Towns under 5,000	30,863		1	5	3				3		4	8
LITCHFIELD CO.	**79,046**			**42**	**4**	**6**					**7**	**62**
Torrington (town and boro)	24,055			*5		*2						1
Winchester (inc. Winsted)	9,095											
Plymouth	6,315			1	1	1					2	2
Watertown	7,016			1		1						
Towns under 5,000	32,565			35	3	2					5	59
WINDHAM CO.	**54,881**	**1**		**23**		**5**			**2**		**5**	**7**
Windham (inc. Willimantic)	14,265	1		1		5					3	3
Putnam (city and town)	8,994			3					1		1	1
Plainfield	8,465											
Killingly (inc. Danielson)	8,905											
Thompson	5,171								1			2
Towns under 5,000	9,181			19							1	1
MIDDLESEX CO.	**46,972**	**3**		**46**	**2**	**1**			**4**		**1**	**51**
Middletown (city and town)	22,554	2		23					2			15
Middletown State Hospital									2			
Towns under 5,000	24,418	1		23	2	1					1	36
TOLLAND CO.	**27,567**					**1**			**4**		**2**	**33**
Vernon (inc. Rockville)	8,822								3			3
Stafford (town and boro)	5,456										1	6
Towns under 5,000	13,289					1			1		1	24

(For cases of other reportable diseases, see page 8)

*Delayed Reports.

Vital Statistics

MONTH OF NOVEMBER, 1924

Births

With each passing month it is our unpleasant duty to mark the steadily declining birth rate. True the decline is not rapid, but by observing the figures for a period of years one can see that the general trend is downward not up.

The statistics for this month show that there were 2,351 births registered in the state. Numerically, this is 1 greater than the 2,350 of November, 1923. Actually the figure is somewhat higher because nine towns have made no report of births for this month. While the actual number of births is somewhat higher than last year, due to the increase of population the birth rate is lower. The birth rate for November, 1924 is 18.8 as compared with 19.1 for November, 1923.

The average number of births for the five year period 1919-1923 is 2,577, from which figure the present month differs by 226.

Certain of the larger towns show increases of 10 or more births over November, 1923. These towns with the actual increase follow:

Bridgeport	30	New Britain	17
Waterbury	24	Enfield	16
Norwich	20	Putnam	13
		Greenwich	10

There were 86 stillbirths reported this month. The total of stillbirths and births amounts to 2,437, of which figure the stillbirths constitute 3.9 per cent.

Deaths

The total number of deaths reported this month is 1,351, a figure exceeded, during the period 1919-1924 inclusive, only by the 1,361 of November, 1920. Again, however, the increase of population changes the rate, and we find that the actual rate 10.8 of November, 1924, is less than the 11.7 of November, 1920.

Last year the total number of deaths in the month of November was 1,307, hence this month is 44 higher than last year. The rate 10.8 is also higher than the 10.6 for last year.

For the five year period 1919-1923 we find the average number of deaths to be 1,339, hence this months' total of 1,351 exceeds the average by 12.

In the following table we find the principal causes of death for November, 1924, with their increases or decreases over November, 1923.

Cause OF DEATH	1924	1923	INCREASE	DECREASE
Diseases of the Heart	182	168	14	......
Epidemic Encephalitis	4	2	2	......
Pneumonia Undefined	5	2	3	......
Typhoid Fever	......	4	......	4
Measles	......	10	......	10
Scarlet Fever	2	7	......	5
Whooping Cough	6	3	3	......
Diphtheria	14	18	......	4
Influenza	24	28	......	4
Tuberculosis (pulmonary)	64	91	......	27
Tuberculosis (other forms)	13	9	4	......
Cancer	143	132	11	......
Cerebrospinal Meningitis	1	2	......	1
Poliomyelitis	1	1	......	......
Pneumonia, Lobar	60	48	12	......
Pneumonia, Broncho	64	47	17	......
Diarrhoea and Enteritis, Under 2	27	17	10	......
Puerperal Diseases	16	10	6	......
Accident	91	79	12	......
Suicide	11	13	......	2
Homicide	7	2	5	......
Other Causes	616	614	2	......
Total	1351	1307	101	57

From the above table we see certain striking increases, especially in diseases of the heart; cancer; pneumonia; diarrhoea and enteritis, under 2; and accidents. A marked decrease in pulmonary tuberculosis is also evident.

As we remarked last month, heart disease and cancer, rather than tuberculosis, are now forging to the front, as the most important causes of death. If we are to check these diseases we must devote more of our time, money, energy and available resources to a unified campaign of research, field work, and education against heart disease and cancer in much the same way as we did and are doing now against tuberculosis. In other words we must co-ordinate the activities of the scientist, the doctor, the public health official and the public, so that the greatest benefit may be derived from their united action. Together they can stop the rising tide of cardiac and cancer deaths.

Again an increase in deaths from the pneumonias claims our attention. During the winter months to come this disease is bound to be prevalent. The only thing to do is to be excessively careful of one's condition. Regard a common cold not as a nuisance to be borne but as a menace to be shunned. Avoid undue exposure, wet feet, loss of sleep and fatigue.

Accidents accounted for 91 deaths this month. Of this number 36 were the result of automobile accidents. Last year at this time there were 27 fatilities from automobiles, hence this month shows an increase of 9.

Births, Marriages and Deaths

November Statistics 1924

November Statistics 1924	Population Based on U. S. Census Est. as of July 1, 1924	TOTALS: Births	TOTALS: Still Births	TOTALS: Marriages	TOTALS: Deaths	DEATH RATES: All Causes (per 1,000 population)	DEATH RATES: Tuberculosis (per 1,000 population)	DEATH RATES: Children under 1 year (per 1,000 births)	AGE GROUPS: Under 1 year	AGE GROUPS: 1 to 5 years	AGE GROUPS: 65 years and over
State of Connecticut	1,502,405	2351	86	1173	1351	10.8	0.5	67.8	177	58	454
Ansonia	18,798	28	....	11	4	2.6	1.3	....	....	....	1
Branford	6,895	12	....	6	4	7.0	1.7	228.6	2	1	....
Bridgeport	162,491	270	8	120	119	8.8	0.3	66.1	18	7	31
Bristol	23,918	36	1	23	17	8.5	1.0	64.6	3	1	1
Danbury	21,981	35	1	17	16	8.7	....	67.8	3	....	7
Derby	12,279	19	4	10	15	14.7	....	82.2	3	....	3
East Hartford	13,274	2	....	8	8	7.2	....	87.0	1	....	4
Enfield	12,629	31	1	18	9	8.6	1.0	80.8	2	2	2
Fairfield	13,950	13	....	4	12	10.3	....	57.9	1	....	5
Glastonbury	5,960	5	....	....	6	12.1	2.0	....	....	....	1
Greenwich	24,674	37	1	49	22	10.7	0.5	137.3	5	....	7
Groton	10,493	11	....	5	6	6.9	....	148.1	2	1	2
Hamden	9,890	15	....	2	2	2.4	....	67.8	1	....	1
Hartford	156,169	311	15	152	166	12.8	0.4	71.3	23	5	41
Killingly	8,905	16	2	8	3	4.0	....	68.9	1	....	1
Manchester	20,561	28	2	11	18	10.5	....	87.6	3	1	8
Meriden	36,014	48	1	36	34	11.3	1.0	31.4	2	3	13
Middletown	22,554	33	1	21	50	26.6	1.6	120.0	6	....	19
Milford	12,893	....	....	....	....	....	....	....	....	....	....
Naugatuck	16,130	19	....	8	9	6.7	0.7	65.6	1	1	4
New Britain	66,370	125	2	41	50	9.0	0.7	72.4	10	2	13
New Haven	175,827	305	7	163	180	12.3	0.8	75.8	25	9	56
New London	28,421	41	2	30	37	15.6	....	47.7	3	4	16
Norwalk	29,292	57	2	25	30	12.3	....	102.0	5	2	7
Norwich	30,303	61	3	35	41	16.2	1.6	60.5	4	2	13
Plainfield	8,465	14	2	10	7	9.9	1.4	75.0	1	....	2
Plymouth	6,315	1	....	6	4	7.6	....	117.6	1	....	1
Putnam	8,894	25	....	11	8	10.8	....	121.8	2	1	2
Seymour	7,705	8	....	3	6	9.3	....	107.1	1	....	3
Shelton	10,833	18	....	7	18	19.9	....	63.5	1	....	5
Southington	9,331	19	....	9	6	7.7	....	61.2	1	1	2
Stafford	5,456	11	....	6	2	4.4	....	....	....	1	1
Stamford	45,157	89	4	51	47	12.5	0.5	89.9	8	3	11
Stonington	10,718	13	....	6	8	9.0	....	....	....	....	6
Stratford	15,422	13	2	9	13	10.1	0.8	165.8	3	1	3
Thompson	5,171	7	....	4	4	9.3	....	....	....	....	2
Torrington	24,055	32	1	14	24	12.0	0.5	53.3	2	1	7
Vernon	8,822	9	....	13	8	10.9	1.4	91.6	1	....	5
Wallingford	12,405	13	2	3	5	4.8	1.0	65.6	1	....	4
Waterbury	100,291	195	7	64	80	9.6	0.4	47.9	9	5	16
Watertown	7,016	2	1	1	6	10.3	....	109.1	1	....	3
West Hartford	10,729	13	....	2	13	14.5	2.2	136.4	2	....	3
West Haven	17,354	39	....	2	13	8.9	....	....	....	....	4
Westport	5,509	7	1	7	8	17.4	....	328.8	2	....	4
Winchester	9,095	16	....	5	16	21.1	1.3	....	....	1	8
Windham	14,265	32	3	3	19	16.0	....	66.5	2	....	8
Windsor	6,287	3	....	2	1	1.9	....	....	....	....	....
Towns under 5,000	212,439	214	10	132	177	9.9	0.2	60.4	15	3	98

for the Month of November, 1924

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
182	4	5	......	......	2	6	14	24	64	13	143	1	1	60	64	27	16	91	11	7	492	226
......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	1	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	1	......	......	......	......	......	......
13	1	......	......	......	......	......	1	4	1	1	15	......	......	7	6	......	......	7	......	1	52	15
......	......	......	......	......	......	......	......	......	2	......	......	1	......	......	2	2	2	2	......	......	5	......
2	......	......	......	......	......	......	......	......	......	......	2	......	......	3	......	2	......	2	......	......	4	3
4	......	......	......	......	......	......	......	......	......	......	2	......	......	1	......	2	......	2	......	......	8	6
3	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	1	......	1	1	......	1	......	......	1	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	2	1	......	......	2
4	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......
4	......	......	......	......	......	1	1	2	1	1	1	......	......	......	1	1	......	1	......	......	6	2
2	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
22	......	......	......	......	......	......	2	3	5	......	22	......	......	8	7	4	2	14	1	4	97	39
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......
3	......	......	......	......	......	......	......	......	......	1	3	......	......	1	......	......	......	......	......	......	8	......
5	3	......	......	......	......	1	......	......	3	......	6	......	......	......	1	1	......	......	......	......	8	2
5	......	......	......	......	......	......	......	......	1	1	3	......	......	3	2	1	......	3	1	......	32	23
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	1	......	2	......	......	1	......	......	......	......	......	......	......	......
6	......	......	......	......	......	......	1	......	2	......	4	......	1	2	2	3	4	5	1	......	14	6
24	......	1	......	......	......	......	1	......	6	1	23	......	......	7	12	2	1	18	......	......	87	26
5	......	......	......	......	......	......	......	......	......	......	1	......	......	2	......	......	......	4	......	......	15	9
4	......	......	......	......	......	......	......	2	......	1	5	......	......	......	3	......	......	3	1	1	13	3
6	......	......	......	......	1	......	2	1	7	1	4	......	......	1	......	......	......	2	1	......	16	13
1	......	......	......	......	......	......	......	......	1	......	3	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	2	1	......	......	......	......	1	1
1	......	......	......	......	......	......	......	1	......	......	1	......	......	......	1	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	7	......	......	......	......	5	......	......	......	......	1	......	7	7
......	......	......	......	......	......	......	......	......	......	......	1	......	......	1	1	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	1	1
7	......	......	......	......	......	......	1	2	2	1	3	......	......	2	1	1	......	4	1	1	16	3
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......
4	......	......	......	......	......	......	1	......	1	......	......	......	......	......	3	......	......	1	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1	......	......	......	......	......	......	1
3	......	......	......	......	......	......	......	1	1	......	2	......	......	1	1	......	......	2	1	......	5	4
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	2	......	......	3	......
......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	3	......
6	......	......	......	......	......	2	3	2	3	3	12	......	......	5	3	2	3	3	1	......	27	6
1	......	......	......	......	......	......	......	......	......	......	1	......	......	2	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	2	......	1	......	......	1	1	1	......	1	......	......	6	1
4	......	......	......	......	......	......	......	......	3	......	2	......	......	1	......	......	......	......	......	......	4	5
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	1	1	......	3	2
1	......	......	......	......	......	......	......	......	1	1	1	......	......	1	......	......	1	2	......	......	5	2
3	......	1	......	......	......	......	......	1	......	......	2	......	......	......	......	......	2	2	......	......	10	3
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1
28	......	3	......	......	1	......	1	3	10	1	15	......	......	4	12	3	1	6	......	......	35	40

Marriages

Now that June and October are passed we naturally expect the monthly number of marriages to diminish. The total number of marriages recorded was 1,173, or 192 less than the 1,365 recorded in November, 1923.

Six Year Study—November, 1919-1924

CONNECTICUT	1919	1920	1921	1922	1923	1924
BIRTHS *Birth Rate*	2995 24.5	2508 21.6	2673 22.6	2362 19.6	2350 19.1	2351 18.8
MARRIAGES *Marriage Rate*	1522 12.5	1390 11.9	1142 9.6	1311 10.9	1365 11.1	1173 9.4
DEATHS *Death Rate*	1309 10.7	1361 11.7	1292 10.9	1346 11.2	1307 10.6	1351 10.8
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	177 13.5	187 13.7	118 9.1	154 11.4	166 12.7	112 8.3
DEATHS UNDER 1 YEAR *Rate per 1000 births*	206 72.7	247 86.7	160 56.3	131 50.3	156 61.0	177 67.8

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

Towns from which no report has been received, November, 1924*

BIRTHS

Chaplin
Colebrook
Cornwall
Franklin
Milford
Plainville
Sterling
Warren
Wolcott

MARRIAGES

Chaplin
Cornwall
Franklin
Lisbon
Milford
Monroe
Plainville
Warren
Waterford
Wolcott

DEATHS

Chaplin
Franklin
Milford
Plainville

*This bulletin goes to press the 5th of each month.

THE SCHOOL CHILD AS A PUBLIC HEALTH PROBLEM

A wave of health is sweeping over the country. People of all ages feel its force, and are making every effort to seek its advantages. Adults have learned that health will carry them forward into an old age in which the rocking chair and the cane have no part; young people admit the need of health during their most productive years; mothers are convinced that health is the foundation of happiness for the little ones who are to be the citizens of tomorrow, and for themselves, if health is to be given to each infant as its birthright.

In line with this movement is the health program which is being promoted by organizations dealing with pre-school children, and is attracting the attention of the schools all over the country. "Catch 'em while they're young" seems to be the motto, for it is during this impressionable age that health habits are more easily formed. Coincident with this health plan is a growing realization of the public that it is directly responsible for the conditions which surround the children in the schools during those twelve to fourteen years when health is so essential to normal growth. As proof of this public responsibility may be noted the types of schools now being constructed, and the large sums being appropriated by local legislatures so that the most healthful equipment may be secured. Although a great deal has been done along this line there is still much to be accomplished, and every progressive community should make a survey of its schools to see if they measure up to the modern requirements of health.

Modern Health Essentials

The modern school provides for:

(a) A maximum of window space so light and fresh air may be freely admitted. It places the windows in the most advantageous position at the left or left and rear of each room so that there may be the least amount of eye strain. Except in those schools which have a special ventilating system it equips each window with a ventilating deflector set at an angle of 70 degrees, so air may be admitted and passed upward without causing a direct draft.

(b) Some method of heating which will provide adequate heat; and a thermometer in each room so that an even temperature may be maintained at 68 degrees Fahrenheit.

(c) On the premises safe drinking water of known purity either by connection with a municipal water supply, or from wells carefully protected from underground pollution or surface drainage. Wells of the chain and windlass, or bucket and chain type are particularly dangerous because of possible contamination due to excessive handling. It is difficult to secure a safe drinking water if it has to be brought from a distance in containers which may be contaminated by dust or handling.

(d) Individual drinking cups or bubbling fountains to eliminate any possibility of the contraction of or spread of disease by a common use. According to Connecticut Statutes the State Department of Health may regulate or prohibit the providing or use of a common drinking cup in public places. In compliance with this the following regulation was adopted in 1911. "It shall be unlawful on and after January 1, 1912, to provide a common drinking cup in or upon the premises of any public building, hotel, restaurant, theatre, public hall, **school house,** or store, and in any public park, street, railroad station, railroad car, or steamboat."

(e) Adequate washing facilities, an adequate supply of individual towels and soap, (either bar or liquid) so children may keep their hands reasonably clean, and thus avoid the spread of infection. Adherence to this fosters habits of cleanliness which are so essential in a health program.

(f) In those places not connected with a sewerage system toilets which are flytight and sanitary in construction that they may assure a safe and complete removal of wastes.

(g) Frequent and efficient inspection by physicians who not only check the spread of disease but aid in the general health program by thorough physical examinations. According to Connecticut Statutes, the board of education, board of school visitors or district school committee of each town, city or district of more than ten thousand inhabitants, shall, and those of less than ten thousand may, appoint one or more school physicians.

(h) School nurses who by their frequent visits may effect a more thorough search for indication of disease, and instruct children in the principles of health.

Need for Improvement

Since health and educational officials have joint responsibility in maintaining health in the schools, their aim is to so improve sanitary conditions that parents may be assured of a safe and healthful place for their children to spend so many hours of their day.

To see how nearly the schools measured up to the modern needs, in 1921 a survey was made by the Bureau of Sanitary

Engineering of the State Department of Health in some 423 schools in Connecticut. This was made at the suggestion of the State Board of Education. The results at that time indicated much need of improvement as shown by the following summary.

About half the schools had natural ventilation and of these only 42 per cent had window boards. In 30 per cent proper ventilation was impossible. Of the rooms visited 22 per cent had no thermometers.

Of these schools only 30 per cent were connected with a public water supply. The other schools obtained their water from wells or springs, only one half of the wells being located on school property. Twenty six wells were so poorly protected as to be a menace to public health. In only 27 per cent of the schools bubbling fountains were in use.

In many instances water was brought from a distance and the water containers, metal or stone, or open pails, were out of repair and in poor sanitary condition.

In many instances no drinking cups were found, although 123 schools reported to be using paper cups, and 67 individual glasses. In 27 instances the latter were used more or less in common as there was no identification mark to establish individual ownership. In 21 per cent of the schools no drinking cups were available, and the children had to drink out of their hands, or make cups out of scrap paper."

It was found that "comparatively little provision was made for washing facilities in the majority of schools." The condition was estimated as 15 per cent fair and 60 per cent poor. While in most instances schools were supplied with paper or individual towels, a common towel was found in 32 schools, and no towels in 156 schools.

In only 86 schools were toilet accommodations provided within the buildings, 42 per cent of these being old and unsatisfactory. Outside toilets were used in the other schools and of these only 14 were in sanitary condition. "Vaults were found which had not been emptied for years."

Doubtless much advance has been made in schools since this survey was made. Old buildings have been condemned and special funds appropriated for new modern buildings and for improving sanitary conditions. Health officials who demand improvements in school buildings for "health's sake" are discharging their duties to the public. The public should stand solidly back of these measures and foster in their community a feeling that money spent for healthful schools and school conditions brings a return value in public welfare.

Laboratories

Approved Laboratories

In regulation 40 of the Sanitary Code is provision for the registering of laboratories and issuing of certificates of approval to laboratories after they are found to conform to certain standards. A reduced facsimile of the certificate is given below with the Sanitary Code Regulation.

Certificate
of
Approved Laboratory

This is to certify that the Bacteriological Laboratory conducted by

____

*located at*______________________________*in*____________________*, Connecticut, has been registered with the State Department of Health as an approved laboratory pursuant to the provisions of Regulation 40, Chapter I of the Sanitary Code of Connecticut.*

This approval expires December 31, 192 , and is revocable at any time at the discretion of the State Department of Health.

*Dated at Hartford, Connecticut, this*____________*day of*____________*, 192*

____
Commissioner of Health.

*No.*________

Form A-11-12-24-200

Sanitary Code

Laboratories Must Register. Approved Laboratories

Reg. 40. Every person, firm or corporation operating or maintaining a laboratory in which body fluids, secretions or excretions are examined for the determination of the presence or absence of an infectious agent in the material examined or in the person or animal from which it was secured, shall register annually with the State Department of Health giving the name of such laboratory, its location, and the name of the person or persons owning or operating the same. Laboratories operated by physicians for their personal convenience need not register.

Laboratories which, after inspection, are found to conform to the standards required by the State Department of Health will be given a certificate of approval, and such laboratories will thereafter be designated as approved laboratories.

REPORT OF THE LABORATORY FOR THE MONTH OF DECEMBER, 1924

DIAGNOSTIC DIVISION

	+	—	?	Total
Typhoid				
Blood for Widal ..	6	31	1	38
Feces	......	9	......	9
Urine	......	3	......	3
Paratyphoid A	......	38	......	38
Paratyphoid B	......	38	......	38
Diphtheria, Cultures				
Diagnosis	242	594	......	836
Release	100	282	......	382
Diphtheria, Carriers				
Diagnosis	630	2572	......	3202
Release	596	1858	......	2454
Diphtheria Virulence	1	28	......	29
Vincent's Angina	6	832	......	838
Haemolytic Streptococci	55	780	......	835
Tuberculosis	12	87	......	99
Syphilis	177	1218	135	1530
Colloidal Gold Test for Spinal Fluids..	4	8	......	12
Gonorrhoea	21	61	......	82
Pneumonia:				
Type IV	1	......	......	1
Malaria	......	4	......	4
Rabies	......	2	......	2
Feces				
Bacillary Dysentery	......	5	......	5
Amoebic Dysentery	1	2	......	3
Shiga Dysentery ..	1	......	......	1
Special Specimens	4	4	......	8
Totals	1857	8456	136	10449

CHEMICAL DIVISION

Towns sending milk samples	14
Milk samples tested	231
Milk samples below fat standard	7
Milk samples indicating watering	2
Towns sending water samples	56
Water samples	119
Sewage samples	......
Clinical thermometers tested	45
Total chemical examinations	395
Total diagnostic examinations	10449
Total specimens and samples examined	10844

PHYSICIANS AND HEALTH OFFICERS

Make Increased Use of Laboratory

The change in the location of the Bureau of Laboratories of the department in July, 1924, not only placed the laboratory nearer the geographical center of the state but the quarters are now large enough so that no request from physicians or health officers need be refused for that cause.

When the activities of the laboratory are reviewed for the six month period July to December for the past five years a great increase in specimens examined is at once apparent.

Years	July—Sept.	Oct.—Dec.	Total Six Months
1920	6,475	15,770	22,245
1921	7,724	12,462	20,186
1922	7,132	14,646	21,778
1923	7,585	9,346	16,931
1924	**9,424**	**24,073**	**33,497**

Compared with 1923 there is over 99 per cent increase in number of specimens examined for the six months' period and there is every indication that this percentage increase will continue and grow larger.

A detailed statement of the work of the period under discussion is given below.

Specimens Examined Bureau of Laboratories

October—December, 1920—1924

Specimens Examined	October to December				
	1920	1921	1922	1923	1924
Typhoid	290	153	113	164	118
Feces	46	42	32	80	17
Urine	0	27	10	59	25
Paratyphoid A	290	0	0	1	118
Feces	0	0	0	1	1
Urine	0	0	0	0	1
Paratyphoid B	290	152	113	164	118
Feces	0	0	1	0	1
Urine	0	0	0	0	0
Diphtheria Cases	4407	4286	4110	2230	3399
Diphtheria Carriers	5860	3304	5632	1333	10126
Diphtheria Virulence	33	15	43	71	125
Vincent's Angina	0	0	0	0	1961
Haemolytic Streptococci	0	0	0	0	1957
Tuberculosis	365	358	326	321	310
Syphilis	3247	3292	3414	3989	4260
Colloidal Gold Test on Spinal Fluids	0	0	0	0	40
Gonorrhoea	205	138	144	149	279
Pneumonia	12	11	1	4	3
Glanders	1	1	2	1	2
Malaria	12	12	6	9	8
Rabies	7	9	5	6	8
Feces Amoebic Dysentery	0	0	0	2	6
Feces Bacillary Dysentery	0	0	0	0	11
Feces Ova	0	0	0	0	0
Special	14	10	5	3	29
Water	218	267	329	311	395
Sewage	4	5	8	11	1
Milk	469	380	352	437	754
Total	15770	12462	14646	9346	24073

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 39 February, 1925 No. 2

This Issue Contains

STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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Division of Occupational Diseases

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CONNECTICUT
HEALTH BULLETIN

Vol. 39 February, 1925 No. 2

Issued Monthly by the
STATE DEPARTMENT OF HEALTH

CONNECTICUT HEALTH DURING 1924

"For a Clean State and a Healthy People. This is the slogan of the State Department of Health. *"Sluagh-Ghairm—the war cry, or gathering word of a Highland Clan in Scotland, so any rallying or battle cry."* So states the definition for slogan. In its modern sense the above slogan is the public health cry against disease and ignorance, and the rallying cry for thousands of health workers all over the state. Because this army of workers, health officers, physicians, nurses, teachers, sanitarians are pulling together so splendidly under this banner, distinct improvement in health is noted year by year. Knowledge of disease and its prevention is spreading while old prejudices are being dispelled; child health is gradually being improved through education of mothers in prenatal, infant and child care; a community consciousness for cleanliness is discernible, and adults are waking up to the fact that a long life and a healthy one may be theirs through a yearly health examination and observance of the rules of hygiene.

The state health book for 1924 has now been audited and some of its high points are now presented.

Preventable Diseases.

The year 1924 was characterized by relatively few definite outbreaks of disease. In fact there were only 4 such outbreaks during the year in the State of Connecticut. Two of these were smallpox, one septic sore throat and one scarlet fever. The septic sore throat and the scarlet fever outbreaks were milk-borne.

Smallpox. The two outbreaks of smallpox occurred in New Britain and Danielson respectively. A total of 47 cases with 5 deaths were reported from New Britain and 25 cases are known to have occurred in the Danielson outbreak, 8 which were among residents of Killingly outside of Danielson.

The New Britain outbreak furnished the most virulent type of smallpox that has visited Connecticut during the last quarter of a century. This is in accord with experience throughout the country that the virulence of smallpox has markedly increased during the past few years. The outbreak was controlled by wholesale vaccination of the population of New Britain. More than 35,000 smallpox vaccine tubes were furnished to the New Britain Health Department for use during the outbreak. By extensive use of this measure, susceptible persons were rendered immune and the fire of disease stopped for the simple reason that there was not enough fuel to feed the flame.

The Danielson outbreak occurred in the summer time whereas smallpox is usually considered as a winter disease. The disease was mild in type and no deaths occurred. As in New Britain the spread of disease was arrested by wholesale vaccination. In Danielson the patients were practically all of French-Canadian descent and the vaccination of the French-Canadian population by physicians and at the free clinic was followed up by a house to house canvas and vaccination of residents in the district where the disease occurred. It is estimated that by these measures fully 95 per cent of persons living in the infected district were vaccinated and the disease died out for want of susceptible material to serve as fuel for its flames.

Septic Sore Throat. While septic sore throat is a reportable disease physicians have not yet acquired the habit of reporting cases. Investigation of the outbreak in Danbury brought to light 89 cases of sore throat, only 5 cases of which reported by physicians as septic sore throat. It appears likely that the majority of the 89 cases were of the septic sore throat variety though part of them were probably ordinary sore throats not connected with the outbreak. In fact, 52 of them were on one milk supply. Translating the figures into rates for purposes of comparison it was found that the customers of one milk supply amounting to 500 quarts per day yielded one case for each ten quarts of daily milk deliveries while in the rest of the city there occurred only one case per 220 quarts of daily milk deliveries from all other supplies.

As soon as evidence was gathered pointing to this milk supply pasteurization of the milk was begun and no further cases of septic sore throat developed. Further investigations disclosed that some of the cows in the herd had inflammation of the udders and at least one of them was giving milk containing

blood and pus. Two or three cows in which the inflammatory condition of the udder did not clear up quickly were sold. As soon as veterinarian examination of the cows and medical inspection of milk handlers together with the examination of cultures from their throats showed negative results, pasteurization of the milk supply was discontinued. The further sale of raw milk did not result in additional cases of septic sore throat.

Scarlet Fever in Bristol. In December there were 127 cases of scarlet fever reported in Bristol, 98 of which were users of milk from one supply. One of the driver on this route had come down with scarlet fever and kept at his work as long as he felt able shortly before the large number of cases began to appear on the route. As soon as suspicion pointed to the one dairy, the sale of milk from this source was stopped and the development of cases promptly ceased.

Typhoid Fever. The number of cases of typhoid fever reported during the year 1924 reached the low point of 238 as compared to 297 the previous year. The number of deaths was exactly the same, 38 for each of the past two years as compared with 43 in 1922.

There has been no definite outbreak of typhoid during the year. The nearest approach to an outbreak was a half dozen or so cases that gave a history of having dug and eaten raw clams along the shore.

Notwithstanding the small number of disease outbreaks occurring during the year the Bureau of Preventable Diseases has been kept busy answering calls from local health officers to assist in investigations and in connection with the diagnosis of suspected cases of communicable diseases. The Bureau has also provided a number of lectures on communicable diseases and has devoted some time to a study of certain special problems in disease prevention. The work of collecting and tabulating statistics of disease incidence of course is carried on routinely at all times.

Venereal Disease Control

The past year has brought very encouraging results. The reports from the physicians show that there has been a great increase in the number of cases reported for the past year over the preceding year, there being 664 cases of syphilis reported in 1923 and 1,387 cases reported in 1924; 670 cases of gonorrhoea reported in 1923 and 1,062 reported in 1924.

The introduction of a monthly check system between the laboratory reports and the reports of the physicians, and a letter sent out in all cases where there has been an oversight in reporting a case, has proven to be of great value in securing much better reporting than has been possible in the past.

Three new treatment stations were instituted during the year, making a total of 15 treatment stations and 6 clinics throughout the State. The Division still supplies the clinics and treatment stations as well as other cooperating institutions with arsphenamine. Sulpharsphenamine has been given a trial and is being supplied to the institutions desiring to make use of it. Assistance has been rendered to the State Farm for Women in establishing a routine of treatment for the infected inmates.

The work of education was of the same character as that of the previous years. Lectures were given and films and slides shown. Twenty-seven hundred pamphlets were distributed to the general public and a new activity instituted, the monthly distribution of a monthly compilation known as "Case Records and Abstracts," to the 1800 physicians in the state.

During the year the division added a social investigator and field worker to its personnel. Her duties, among others, are to visit the various clinics and assist them in controlling refractory patients and performing the follow-up of venereal cases.

Mental Hygiene

The year's work demonstrates that practical measures for the promotion of mental health can be made effective.

With the cooperation of two child welfare organizations, two county homes were studied and recommendations were made for the proper education and placement of each child according to its mental ability and personality traits.

At the request of visiting nurses, teachers, and private individuals, advice and recommendations for treatment have been given concerning certain persons and groups in need of mental care. In a rural community, for instance, a number of retarded children were given psychometric tests and recommendations were made for special provision for their education.

The establishment of mental health clinics has been encouraged. These clinics treat not only patients who have some definite form of mental or nervous disorders but also those persons who in one way or another are not well adjusted to their environment. One such clinic was organized with the cooperation of the department and is now conducted on a permanent basis by a local agency and a state hospital. An

other clinic is being developed under the auspices of a state hospital, visiting nurse association and this division.

There are thirteen mental health clinics in the state. Attempt is made to keep in touch with them and to receive monthly reports of their work. These clinics are improving the mental health of many adults and children in the communities in which they are located and are even making unnecessary the commitment of certain patients to state hospitals.

Definite figures concerning mental disorders in this state have been made available by a survey of all the psychiatric hospitals.

Mental health articles have been published in the Monthly Bulletin, including a discussion of the relation of heredity, alcohol, and syphilis to mental disorders. These as well as other literature and health talks have impressed upon the people the dangers of mental disorder and the feasibility of preventive work.

Sanitary Engineering

The year 1924 showed a marked deficiency in rainfall. The drought has lasted over a longer period than most of our recent droughts and has resulted in the entire depletion of several public water supplies, the officials of which had been previously warned but had waited too long. Emergency supplies were pressed into service and the Bureau cooperated with water departments in cleaning up watersheds, installing treatment plants and the adoption of all possible precautions to prevent water-borne epidemics from the use of such supplies.

Excellent progress has been made in securing cooperation between the Bureau and water department officials. Regular mailing lists for the collection and analysis of all public supplies were made up, and it is now possible to obtain much more accurate information as to the quality of the public water supplies in the state. More careful control of chlorination plants is being strongly urged and is meeting with substantial results. Requests for advice from water departments are increasing. A monthly system of reporting by the water departments was inaugurated and this has met with excellent response.

The Bureau has accomplished worth-while work in cleaning up insanitary slaughterhouses by the enforcement of the provisions of the "Sanitary Code." Unbelievably bad conditions were found in many cases. It has been estimated that over $50,000 has been expended by slaughterhouse owners in construction of sanitary buildings.

A more extensive survey of summer camps and boarding houses was made by the Bureau in 1924 than ever before in

its history. A vast number of improvements have been carried out as a result of the investgations.

Talks on rural sanitation were given at several granges in the state. Copies of statutes explaining the statutory regulations in relation to submission of plans for sewerage systems were mailed throughout the state and as a result, more plans and applications have been submitted for approval of sewerage systems and sewage disposal plants than in any previous year. Periodic inspections of municipal sewage treatment plants were carried out and numerous recommendations were made to improve their operation.

The Laboratory

At the end of the first half of 1924 the Bureau of Laboratories was moved from New Haven to Hartford and placed in close touch with the other bureaus and divisions at the State Capitol. This change has tended toward giving quicker and better service to the physicians and health officers of the state, not only because of a more central location and better coordination with the other departments of state work, but also because the quarters are larger, much better arranged, and lighted, and less crowded for laboratory work. The following tables show by comparison, the increased number of specimens examined in the different laboratory divisions during the last six month period in the new headquarters.

January to June, 1924, inclusive

Month	Diagnostic	Water	Milk	Thermometers	Total
January	4344	121	183	248	4896
February	3145	90	145	407	3787
March	2843	105	217	118	3283
April	2874	133	251	187	3445
May	2458	133	203	141	2935
June	1984	137	192	49	2362
Total	**17648**	**719**	**1191**	**1150**	**20708**

July to December, 1924, inclusive

July	2754	144	226	....	3124
August	2373	198	277	176	3024
September	3053	146	244	....	3443
October	4863	166	314	46	5389
November	7633	111	209	....	7953
December	10449	119	231	45	10844
Total	31125	884	1501	267	33777
Total for year	**48773**	**1603**	**2692**	**1417**	**54485**

New types of work during the year included the examination for the organisms of Vincent's angina and for haemolytic streptococci of all cultures submitted for diagnosis of diphtheria. The bureau has been called upon for many special examinations which have been cheerfully made, as far as they did not interfere with the functioning of the regular work

of the laboratories. The examination of samples of water used in the making of beverages and in connection with dairies has increased since the laboratories have been in closer touch with the office of the State Dairy and Food Commissioner.

Vital Statistic or Health Accounting

During the year 1924 progress was made on back registration reports. At the first of the year the 1917 reports had been finished. In March the tabulating of the 1918 report was begun, and completed in November. Although this work was progressing well, its speed was accelerated by the addition of three new punch card operators to the tabulating department in September.

Another noteworthy accomplishment was the completion in December of the "bride index from 1914 to the present date. Previous to these years all records had been filed under the groom's name only, thus making it practically impossible to find a record, concerning which, only the bride's name was known. Now, the cards are still filed under the groom's name, but are cross indexed under the bride's name also, so that all records are immediately available. The value of this arrangement has already been proven by the elimination of the long tedious searches necessary under the old system.

In September, the director of the bureau, Mr. Willim C. Welling, was given a fellowship and granted a leave of absence to pursue a course of studies at the Harvard School of Public Health.

During his absence the work of the bureau is being carried on as usual by Mr. Philip L. Riley, as acting director.

Child Hygiene

The following activities have been carried on by the Bureau of Child Hygiene, with the assistance of local doctors, nurses and workers:—

Well Child Conferences in 38 towns
Supervision and standardization of midwife practice by 107 midwives in 23 towns
Instruction in Dental Hygiene
Prenatal instruction throughout the state
Mailing of birth certificates to mothers

The following items present the recent development of Well Child Conferences:

In March, 1923, there were 3 conferences functioning under this Bureau.
In April, 1923, there were 11 conferences
In April,1924, there were 19 conferences

In January, 1925, there were 38 conferences

A comparison of figures for the entire fiscal year of 1923—1924, with the half year of 1924—1925, shows the trend of public health sentiment due to more efficient organization:

	July 1, 1923, to June 30, 1924	July 1, 1924, to Jan. 1, 1925
Number of Conferences	243	132
Attendance	3095	2487
New cases	1397	942
No. children with defects	903	540
Total number of defects	1467	973
No. defects referred to family physician	625	320
No. defects corrected	129	86

A large number of defects are now under treatment and awaiting operation.

Child hygiene work is based on the fundamental principle that an accurate knowledge of each child's physical condition and intelligent care from before birth on through babyhood and childhood, means

Fewer maternal and infants deaths
Fewer epidemics of contagious diseases
Less absence from school
Less retardation in school
Less sickness in adult life
Less anxiety and expense from the mentally and morally unfit

Toward the attainment of these conditions for all mothers and children throughout the state, the Bureau of Child Hygiene is directing its activities.

Public Health Nursing

Four new public health nursing associations have started during the past year and additional nurses have been placed on many staffs.

The number of public health nurses in the state is now 413 including school nurses.

Meetings have been held in each county for public health nurses for the discussion of standards, accepted methods of procedure, technique in public health nursing, and for the discussion of their local problems. These have been successful beyond our expectations.

One satisfying feature of the past year is the number of nurses who have taken special courses in public health nursing and returned to Connecticut to do even better work.

Voluntary organizations still continue to finance the larger part of public health nursing service in the 86 towns having such, not only for necessary bedside nursing but the instructive and preventive work as well. This is indicated by the fact that of the total budget of $671,103 for public health nursing

associations (not including school nurses) $180,135 was given by towns. The remainder has been raised privately by the organizations.

During the past year a study made by this Bureau of towns with no public health nursing service, has led to the presentation in the present legislature of a bill granting state subsidies to small towns for the employment of public health nurses. It is hoped that this will provide a way for helping the 83 towns that have been unable to finance a public health nursing service themselves. "An Equal Chance for Equal Health" will not be realized until every town in the state is provided with this necessary service.

Two leaflets—"The Public Health Nurse, What She Is and What She Does" and "Guidance for Public Health Nurses," which contains standing orders for public health nurses approved by the Connecticut State Medical Society, were printed and distributed. It is of interest to note that request for copies of these have come from practically every state in the union.

Public Health Instruction

Health like the eclipse was much talked about during the last year. But, unlike its worthy rival it did not reach totality as 1925 appeared while there was still much left to be discussed. The audiences were scattered over the state in almost every town and included people of varied interests. health officers, physicians, nurses, teachers, mothers, children; professional as well as lay public. For some the printed word. as the weekly and monthly bulletins, was sufficient, but with other groups more spectacular methods were resorted to.

The film library of over thirty health films was in constant demand, used as a part of the weekly movie program; for health instruction in schools; to illustrate some special health talk such as diphtheria, smallpox, child hygiene, nursing, or a yearly health examination; for popular audiences in small or large groups.

Other illustrative material consisted of slides of which nearly a thousand are available, and posters. These were kept in the field at all times, and always on the move, as the demand from the field shifted the scene.

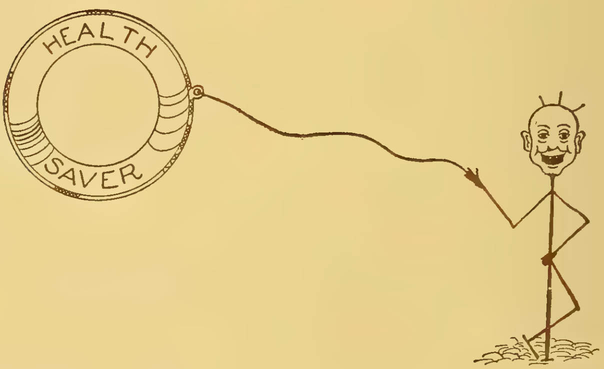
Exhibits proved the most effective means of reaching the masses, or lay audiences, and about twenty thousand people were so reached at seventeen of the fairs scattered over the state.

To reach potential leaders in health work, a public health course was offered to hospital training schools for nurses. This course of fifteen talks covered the essential points in pub-

lic health and was given, wholly or in part, to the nurses of five hospitals.

A growing interest in health was shown by the frequent calls for health talks at parent teachers associations, mothers' clubs, mens' clubs, school groups and granges. These were often illustrated with films or slides.

One hundred and seventy-five thousand people were reached through this direct health service. To estimate the numbers who received the health message through the printed word, health leaflets and weekly and monthly bulletins, would be impossible as many hundreds of thousands have been distributed and these served more than one person as copies were handed to others and articles were copied by the press thus greatly extending the audience.



"It pays to advertise"—even health—which is needed by all, young and old, rich and poor. The people in the state have shown a growing interest in health as evidenced by their desire to be correctly informed on health matters and their willingness to adopt health measures which will not only improve their health, but protect others from the spread of disease.

Laboratories

REPORT FOR THE MONTH OF JANUARY, 1925

Diagnostic Division

	+	—	?	Total
Typhoid				
Blood for Widal	5	37	1	43
Blood cultures	....	2	....	2
Feces	8	5	1	14
Urine	2	5	....	7
Paratyphoid A	....	42	1	43
Paratyphoid B	1	42	....	43
Diphtheria, Cultures				
Diagnosis	138	793	....	931
Release	122	412	....	534
Diphtheria, Carriers				
Diagnosis	60	166	....	226
Release	152	1340	....	1492
Diphtheria Virulence	1	34	....	35
Vincent's angina	1	930	....	931
Haemolytic streptococci	61	874	....	935
Tuberculosis	17	86	....	103
Syphilis	180	1296	137	1613
Colloidal Gold Test for Spinal Fluids	3	14	3	20
Gonorrhoea	5	72	....	77
Pneumonia				
Type I	....	....	....	....
Type II	1	....	....	1
Type III	....	....	....	....
Type IV	....	....	....	....
Malaria	1	1	....	2
Rabies	....	2	....	2
Feces				
Amoebic dysentery	2	....	....	2
Pinworm	1	....	....	1
Tapeworm ova	1	....	1	2
Parasites	....	....	1	1
Special specimens	9	....	....	9
Total	771	6153	145	7069

CHEMICAL DIVISION

Towns sending milk samples	12
Milk samples tested	174
Milk samples below fat standard	1
Milk samples indicating watering	0
Towns sending water samples	88
Water samples	218
Sewage samples	0
Clinical thermometers tested	428
Chemical examinations	820
Specimens examined	2069
Total number of examinations made	7889

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF JANUARY, 1925
(As compared with previous years)

A comparison of the daily morbidity reports received during the month of January, 1925 with the corresponding month for the years 1920, 1921, 1922, 1923 and 1924.

Disease	Average 1920-1924 for Jan.	Mean 1920-1924 for Jan.	1920	1921	1922	1923	1924	1925
Cerebrospinal Meningitis ..	5	4	8	6	4	8	1	5
Diphtheria	361	369	429	435	369	299	274	246
Encephalitis Epidemic	2	3	......	3	......	2	4	6
Measles	1063	809	1425	571	442	2066	809	232
Poliomyelitis	1	1	2	2	1	1	1	3
Scarlet Fever	533	459	438	630	396	459	741	814
Smallpox	21	2	2	1	95	4	2	......
Typhoid Fever	9	8	11	8	8	7	8	16
Tuberculosis (pulmonary)	138	127	127	189	90	119	167	121
Whooping Cough	267	313	309	447	224	350	313	306

A comparison of the morbidity on these diseases for the two preceding months, November and December with the January record is as follows:

	November	December	January
Cerebrospinal Meningitis	3	1	5
Diphtheria	221	293	246
Encephalitis Epidemic	4	7	6
Measles	22	71	232
Poliomyelitis	3	2	3
Scarlet Fever	432	824	814
Smallpox	4	......	4
Typhoid Fever	13	33	16
Tuberculosis (pulmonary)	115	105	121
Whooping Cough	302	222	306

Cases of Other Reportable Diseases
January, 1925

Anthrax	1	Mumps	178
Chickenpox	443	Pneumonia (Broncho)	185
Conjunctivitis Infectious	3	Septic Sore Throat	15
Ophthalmia Neonatorum ..	1	Tetanus	1
Dysentery (Amoebic)	1	Trachoma	3
Encephalitis Epidemic	6	Trichinosis	3
German Measles	120	Gonorrhoea	119
Influenza	28	Syphilis	127
Jaundice	1		
Malaria	1	Total	1,236

Cases of Occupational Diseases

Acute Eczema	1		
Lead Poisoning	3	Total	4

Cases of Certain Reportable Diseases

January, 1925	Population Est. as of July 1, 1925	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Cerebrospinal Meningitis	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com Diseases
State Total	1,529,688	16	232	814	306	246	5	3	121	16	237	1236
NEW HAVEN CO.	**459,157**	**1**	**71**	**260**	**74**	**51**	**1**	......	**26**	**8**	**83**	**519**
New Haven	178,735	1	55	125	41	3	1	......	16	5	43	295
Waterbury	102,134	......	......	32	7	20	......	......	4	1	12	67
Meriden (city and town)	36,251	......	1	7	3	10	......	......	1	......	6	44
Ansonia	19,034	......	......	46	......	10	......	......	1	......	1	9
West Haven	17,834	......	1	8	2	......	......	......	......	......	5	6
Naugatuck	16,350	......	......	......	......	......	......	......	......	......	......	1
Wallingford (town and boro)	12,483	......	1	10	......	1	......	......	1	1	4	7
Milford	13,473	......	1	3	......	......	......	......	1	......	......	9
Derby	12,500	......	1	1	......	......	......	......	......	1	......	......
Hamden	10,150	......	1	12	17	......	......	......	1	......	10	50
Branford (town and boro)	6,954	......	2	1	......	......	......	......	......	......	......	2
Seymour	7,911	......	......	1	......	1	......	......	......	......	1	1
Towns under 5,000	25,348	......	8	14	4	6	......	......	1	......	1	28
FAIRFIELD CO.	**363,740**	**2**	**6**	**155**	**32**	**68**	**2**	......	**35**	**1**	**60**	**187**
Bridgeport	166,644	1	......	84	3	33	1	......	17	1	36	74
Stamford (city and town)	46,218	......	1	31	15	9	......	......	2	......	5	43
Norwalk	29,596	......	2	1	2	7	......	......	3	......	4	11
Danbury (city and town)	21,931	......	......	7	......	2	1	......	4	......	5	4
Greenwich (town and boro)	25,207	......	......	3	3	1	......	......	4	......	3	9
Stratford	16,085	......	......	5	4	6	......	......	4	......	1	4
Fairfield	14,490	1	1	4	5	5	......	......	......	......	2	2
Shelton	11,134	......	......	13	......	4	......	......	......	......	1	24
Westport	5,597	......	......	4	......	1	......	......	......	......	1	1
Towns under 5,000	26,838	......	2	3	......	......	......	......	1	......	2	15
HARTFORD CO.	**384,608**	**8**	**4**	**228**	**111**	**112**	**1**	**1**	**43**	**7**	**71**	**350**
Hartford	160,199	1	1	42	35	45	......	1	27	3	29	163
New Britain	67,896	......	1	73	1	21	......	......	7	3	17	48
Bristol (city and town)	24,621	2	1	17	39	22	......	......	2	......	1	16
Manchester	21,018	......	......	27	......	1	......	......	2	......	7	11
Enfield	12,834	1	......	2	15	1	1	......	1	1	1	7
East Hartford	13,616	......	......	9	......	1	......	......	1	......	1	5
Southington (town and boro)	9,529	......	......	8	10	2	......	......	......	......	6	8
West Hartford	11,146	1	1	6	2	2	......	......	......	......	3	58
Windsor	6,436	......	......	5	......	4	......	......	......	......	......	2
Glastonbury	6,042	......	......	......	......	......	......	......	......	......	......	......
Towns under 5,000	46,253	3	......	39	9	13	......	......	3	......	6	32
NEW LONDON CO.	**112,155**	**2**	**3**	**49**	**27**	**6**	......	......	**7**	......	**4**	**54**
Norwich (city and town)	30,425	......	......	12	......	3	......	......	5	......	2	6
New London	29,003	1	......	......	12	3	......	......	1	......	......	21
Stonington (town and boro)	10,819	......	......	14	......	......	......	......	......	......	......	1
Groton (town and boro)	10,764	......	3	19	7	......	......	......	......	......	1	19
Towns under 5,000	31,144	1	......	4	8	......	......	......	1	......	1	7
LITCHFIELD CO.	**79,851**	**1**	......	**45**	**6**	**3**	**1**	......	**2**	......	**3**	**23**
Torrington (town and boro)	24,492	......	......	......	......	......	......	......	......	......	......	......
Winchester (inc. Winsted)	9,129	......	......	......	......	......	......	......	......	......	......	......
Plymouth	6,349	......	......	2	......	......	......	......	......	......	......	8
Watertown	7,192	1	......	6	......	......	1	......	......	......	1	1
Towns under 5,000	32,689	......	......	37	6	3	......	......	2	......	2	14
WINDHAM CO.	**55,360**	......	......	**17**	**3**	**3**	......	......	**3**	......	**6**	**23**
Windham (inc. Willimantic)	14,368	......	......	1	......	......	......	......	1	......	1	1
Putnam (city and town)	8,990	......	......	5	......	......	......	......	......	......	1	1
Plainfield	8,570	......	......	2	3	1	......	......	2	......	......	2
Killingly (inc. Danielson)	9,051	......	......	3	......	......	......	......	......	......	1	7
Thompson	5,196	......	......	......	......	......	......	......	......	......	......	......
Towns under 5,000	9,185	......	......	6	......	2	......	......	......	......	3	12
MIDDLESEX CO.	**47,152**	**2**	**148**	**41**	**16**	**1**	......	**2**	**3**	......	**5**	**63**
Middletown (city and town)	22,649	1	......	23	1	1	......	......	......	......	2	3
Middletown State Hospital		......	......	......	......	......	......	......	3	......	......	......
Towns under 5,000	24,503	1	148	18	15	......	......	2	......	......	3	60
TOLLAND CO.	**27,665**	......	......	**19**	**37**	**2**	......	......	**2**	......	**5**	**17**
Vernon (inc. Rockville)	8,822	......	......	6	......	......	......	......	1	......	1	......
Stafford (town and boro)	5,457	......	......	......	2	......	......	......	......	......	2	3
Towns under 5,000	13,387	......	......	13	35	2	......	......	1	......	2	14

(For cases of other reportable diseases, see page 32)

Vital Statistics

Month of December 1924

Births

The total number of births registered during the month was 2,402, yielding a birth rate of 19.2. The number of births differs only by 2 from the 2,404 of December, 1923, while the rate is 19.2 as compared with 19.6 of last year, a slight decrease.

The average number of births for the five year period 1919—1923 is 2,662, hence this month stands 260 below the five year average.

With the figures for December in 1923 and 1924 so nearly the same it is interesting to note those townswhich show an increased number of births for this month. Below are listed the towns with increases of 10 or more, with the actual number of increase in each case.

Hartford	35	Torrington	16
Waterbury	30	Branford	11
Stamford	16	Fairfield	10
Greenwich	16	Meriden	10

The number of still-births recorded was 83, 7 less than the 90 reported last year at this time. The total of births and still-births is 2,485, of which, the still-births constitute 3.3 per cent.

Deaths

The deaths this month show an increase over December 1923. The actual figures being 1,451, an increase of 66 over the 1,385 of last year. The death rate 11.6 is higher than that of December, 1923, which was 11.3.

The average number of deaths for the five year period 1919—1923 is 1,484, hence this month's total is 33 below the average.

Although the death rate for the fall months has been slightly higher than that of last year, the rate for the year is less than that of 1923 because of the gains made last January, February and March. The death rate this year is 11.3 per 1,000 population, as compared with the rate of 12.0 for 1923.

In the table below will be found the principal causes of death for December, 1924, with their increases or decreases over December, 1923.

Cause OF DEATH	1924	1923	INCREASE	DECREASE
Diseases of the Heart	213	182	31	....
Epidemic Encephalitis	4	2	2	....
Pneumonia Undefined	1	5	....	4
Typhoid Fever	2	1	1	....
Measles	0	8	....	8
Scarlet Fever	2	7	....	5
Whooping Cough	6	2	4	....
Diptheria	13	28	....	15
Influenza	43	21	22	....
Tuberculosis (Pulmonary)	85	99	....	 14
Tuberculosis (Other forms)	12	13	....	1
Cancer	129	124	5	....
Cerebrospinal Meningitis	0	2	....	2
Poliomyelitis	0	0	....	....
Pneumonia, Lobar	64	69	....	5
Pneumonia, Broncho	72	74	....	2
Diarrhoea, and Enteritis (Under 2)	11	16	....	5
Puerperal Diseases	9	15	....	6
Accident	96	87	9	....
Suicide	10	14	....	4
Homicide	4	4	....	....
Other Causes	675	612	63	....
	1,451	1,385	137	71

It is quite evident from the above figures that the major increases for the month were from diseases of the heart and influenza.

The importance of heart disease as a cause of death has been stressed here before. Influenza, however, is a new factor which has been subsident for some time. This sudden increase of 22 deaths over last year and 19 more than in November, 1924 leads us to think that this disease is becoming more prevalent again.

The decrease of 14 pulmonary tuberculosis is interesting to note as being in line with the general trend of that disease at this time.

Deaths from accidents 96, show an increase of 9 over the 87 of last year. This increase is not from automobile fatalities, however, because there were the same number reported this month as in December, 1923, namely 25. In 1923, automobile fatalities made up 28.7 per cent of the accidental deaths; in 1924 they accounted for 26.0 per cent.

Marriages.

There were 707 marriages reported to this office for the month of December. This is a decrease of 89 from the 796 in December 1923. The marriage rate is 5.6 compared with the 6.5 of last year at this time.

Births, Marriages and Deaths

December Statistics 1924	Est. as of July 1, 1924 Population Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Still Births	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,502,405	2402	83	707	1451	11.6	0.7	60.2	158	49	584
Ansonia	18,798	21	1	8	8	5.1		70.6	2		4
Branford	6,895	12		2	3	5.2	1.7				2
Bridgeport	162,491	247	6	53	137	10.1	0.4	77.2	21	2	36
Bristol	23,918	41	5	8	22	11.0	0.5	86.2	4	2	7
Danbury	21,981	37	1	10	25	13.6	1.1	22.5	1	1	11
Derby	12,279	39	2	8	21	20.5	1.0	27.4	1		9
East Hartford	13,274	14	1	6	10	9.0	0.9				4
Enfield	12,629	20		20	7	6.6					3
Fairfield	13,950	19		3	14	12.0		57.9	1	2	6
Glastonbury	5,960	6	1	2	1	2.0					1
Greenwich	24,674	36	1	36	21	10.2	1.0	107.9	4	2	8
Groton	10,493	11		5	7	8.0				1	4
Hamden	9,890	16		4	10	12.1		67.8	1	1	4
Hartford	156,169	330	13	103	143	11.0	0.6	46.5	15	3	43
Killingly	8,905	16	1	6	5	6.7		70.0	1		1
Manchester	20,561	29	2	9	12	7.0	0.6	116.8	4		4
Meriden	36,014	64	4	15	29	9.7	0.3	62.7	4	4	11
Middletown	22,554	39		18	51	27.1	1.1	139.8	7		21
Milford	12,893	7		6	11	10.2		150.9	2		7
Naugatuck	16,130	11	1	6	13	9.7	0.7	196.7	3		5
New Britain	66,370	136	8	20	55	9.9	0.4	57.9	8	5	10
New Haven	175,827	294	10	93	193	13.2	0.7	54.6	18	7	69
New London	28,421	54	1	19	37	15.6	0.4	15.9	1		17
Norwalk	29,292	44	1	18	36	14.7	2.5	61.2	3	3	19
Norwich	30,303	64	2	13	42	16.6	0.4	105.9	7	1	17
Plainfield	8,465	9		5	5	7.1	1.4			1	3
Plymouth	6,315	10			5	9.5		235.3	2		1
Putnam	8,894	11	1	2	11	14.8	1.3	60.9	1		7
Seymour	7,705	6		2	2	3.1					1
Shelton	10,833	10		4	15	16.6	1.1				4
Southington	9,331	9		4	12	15.4		183.7	3		6
Stafford	5,456	13		2	7	15.4		83.9	1		3
Stamford	45,157	112	6	29	42	11.2	0.5	44.9	4	4	12
Stonington	10,718	14	2	9	9	10.1		72.7	1		5
Stratford	15,422	26	1	6	12	9.3	1.6				7
Thompson	5,171	11		2	3	7.0					2
Torrington	24,055	44	2	9	17	8.5		106.4	4		9
Vernon	8,822	1		2	8	10.9	1.4				6
Wallingford	12,405	16		6	6	5.8	1.9			1	3
Waterbury	100,291	196	6	34	93	11.1	0.5	58.5	11	4	29
Watertown	7,016	7		1	5	8.6	1.7			1	1
West Hartford	10,729	16		6	8	8.9		204.5	3		2
West Haven	17,354	24		3	19	13.1		64.5	2		6
Westport	5,509	3			10	21.8	2.2	164.4	1		4
Winchester	9,095	21		1	6	7.9		54.8	1		2
Windham	14,265	23		6	13	10.9		33.2	1	1	9
Windsor	6,287	4		1	7	13.4					4
Towns under 5,000	212,439	209	4	82	223	12.6	1.0	60.4	15	3	126

for the Month of December, 1924

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
213	4	1	2	......	2	6	13	43	85	12	129	......	......	64	72	11	9	96	10	4	469	212
2	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	......	......	......	......	......
16	......	......	......	......	1	......	1	5	5	2	18	......	......	5	7	......	1	13	1	......	65	18
2	......	......	......	......	......	1	......	1	......	......	2	......	......	1	2	......	......	......	......	......	6	1
5	......	......	......	......	......	......	......	1	2	......	1	......	......	1	......	......	......	4	......	......	8	4
3	......	......	......	......	......	......	......	......	1	......	1	......	......	......	......	......	......	5	......	......	12	9
3	......	......	......	......	......	......	......	......	1	......	1	......	......	......	......	......	......	......	......	......	......	1
3	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	1	1	......	1	2
3	......	......	......	......	......	......	......	2	......	......	3	......	......	......	......	......	......	......	1	2	......	......
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	1	......	2	1	......	1	......	......	1	1	1	......	2	......	......	6	4
2	......	......	......	......	......	1	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	1	......	......	2	......	......	......	......	......	......	1	......	......	......	1
21	1	......	......	......	......	......	......	1	3	2	18	......	......	4	7	......	1	13	1	......	77	25
1	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1	......	......	......	......	......	......	1
2	......	......	......	......	......	......	......	1	1	......	2	......	......	......	......	......	......	1	......	......	4	......
2	1	......	......	......	......	......	1	......	......	......	5	......	......	......	5	......	......	3	......	......	9	2
11	......	......	......	......	......	......	......	......	5	......	2	......	......	4	2	2	......	3	......	......	29	26
......	......	......	......	......	......	......	......	......	......	......	3	......	......	1	......	......	......	......	......	......	4	1
3	......	......	......	......	......	......	......	......	1	......	......	......	......	1	......	......	......	......	......	......	......	......
6	......	......	......	......	......	......	2	1	2	1	2	......	......	2	3	4	......	4	1	......	12	3
28	1	1	2	......	......	1	......	6	8	8	15	......	......	13	5	1	1	16	1	1	83	23
8	......	......	......	......	......	......	......	1	1	......	5	......	......	1	......	......	......	2	1	......	13	11
3	1	......	......	......	......	......	3	1	4	......	2	......	......	1	1	......	......	3	......	......	5	......
5	......	......	......	......	......	......	1	3	5	......	5	......	......	......	1	......	......	3	......	......	14	5
1	......	......	......	......	......	......	......	......	1	......	......	......	......	1	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	1	......	......	1	......	......	......	1
1	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	1	2	......	......	6	2
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	8	......	2	......	......	......	......	......	......	......	......	......	8	9
2	......	......	......	......	......	......	......	3	......	......	......	......	......	1	1	......	......	1	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	2	......	......	......	1	......	......	......	......	......	1	......
8	......	......	......	......	......	1	......	1	1	2	2	......	......	......	2	......	3	1	......	......	18	6
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	3	......	......	1	......
2	......	......	......	......	......	......	1	......	1	......	3	......	......	......	......	......	......	2	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
7	......	......	......	......	......	......	......	......	......	......	1	......	......	1	......	......	......	1	......	......	4	1
2	......	......	......	......	......	......	......	......	1	......	1	......	......	1	......	......	......	......	1	......	1	......
1	......	......	......	......	......	......	1	1	2	......	......	......	......	......	......	......	......	......	......	......	1	......
8	......	......	......	......	......	1	1	3	4	......	5	......	......	11	9	3	2	4	1	1	28	6
1	......	......	......	......	......	......	......	......	1	......	......	......	......	1	......	......	......	1	......	......	......	1
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	3	......
1	......	......	......	......	......	......	......	1	6	1	2	......	......	......	......	......	......	......	......	......	8	7
......	......	......	......	......	......	......	1	1	1	......	1	......	......	1	1	......	......	......	......	......	3	3
......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	4	2
......	......	......	......	......	......	......	......	1	......	......	......	......	......	1	1	......	......	......	......	......	5	2
1	......	......	......	......	......	......	......	......	1	......	......	......	......	......	1	......	......	......	......	......	1	2
38	......	......	......	......	1	......	1	5	18	1	16	......	......	9	18	......	......	5	1	......	29	33

Towns not reporting—December, 1924

BIRTHS	DEATHS	MARRIAGES
Bethlehem	Franklin	Chaplin
Coventry	Plainville	Cheshire
East Haddam	Sharon	Clinton
Franklin	South Windsor	Coventry
Kent	Union	Cromwell
North Branford		East Haddam
Sharon		Farmington
South Windsor		Franklin
Union		Old Lyme
Waterford		Plymouth
Woodbridge		Portland
		Sharon
		South Windsor
		Union
		Waterford
		Westport

Six Year Study—December—1919-1924

CONNECTICUT	1919	1920	1921	1922	1923	1924
BIRTHS	3065	2654	2764	2423	2404	2402
Birth Rate	25.1	22.9	23.3	20.1	19.6	19.2
MARRIAGES	845	806	715	733	796	707
Marriage Rate	6.9	6.9	6.0	6.1	6.5	5.6
DEATHS	1538	1446	1425	1618	1396	1451
Death Rate	12.6	12.5	12.0	13.4	11.4	11.6
COMMUNICABLE DIS.* DEATHS	189	177	139	189	170	151
Per Cent to Total Deaths	12.3	12.2	9.8	11.7	12.2	10.4
DEATHS UNDER 1 YEAR	226	221	180	211	168	158
Rate per 1000 births	79.6	77.5	63.2	80.9	65.5	60.2

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

THE YEAR IN RETROSPECT.

Vital Statistics form the basis of all health work. Even as the business man keeps his accounts, so that he may know his profit and loss, so must the health official record, not dollars and cents, but births and deaths, so that he may know what factors in his community's health need most attention. Or again, he must have statistics to show others what gains or losses have been made in the battle which he constantly wages against disease.

This being the case, what have the figures to say of the health of the state during the year 1924? Was it a healthy year, and if so, to what influence was it due?

If we take the crude death rate for the state as one index we can say that the past year was indeed a healthy one. There was a total of 16,975 deaths reported, yielding a death rate, per 1,000 population of 11.3. This figure is the lowest in the history of the department, being a trifle lower than the rate of 11.4 for 1921, which previous to this time, was our healthiest year.

In addition to this fact, we find that there were 31,505 births registered during the year, which gives a rate of 21.0 per 1,000 population. This is a very slight increase over the rate of 20.9 of 1923, but nevertheless it is worthy of mentioning because the general trend of birth rates in the United States has been downward in the last five years.

The interest in the increased birth rate is augmented when we turn to the figures on infant mortality and find there a sharp drop from a rate of 76.4 in 1923 to 69.0 in 1924. The infant mortality rate is simply the number of deaths under one year of age, to every 1,000 live births. Hence, if there was an increase in the number of births, and fewer children under one died, we have succeeded in giving the new generation a good start on the road of life. This, certainly, is an accomplishment of which we can well be proud.

The following table displays in figures the facts mentioned above and also displays a decreased death rate for certain communicable diseases.

	Birth Rate (1)	Death Rate (1)	(Rate) (2) Infant Mortality	(3) Diphtheria	(3) Tuberculosis All forms	(3) Pneumonia All forms
1923	20.9	12.0	76.4	12.7	89.3	127.4
1924	21.0	11.3	69.0	11.2	81.3	100.3

(1) Rate per 1,000 population
(2) Rate per 1,000 live births
(3) Rate per 100,000 population.

Deaths in Connecticut for Five Year Period, 1920-1924

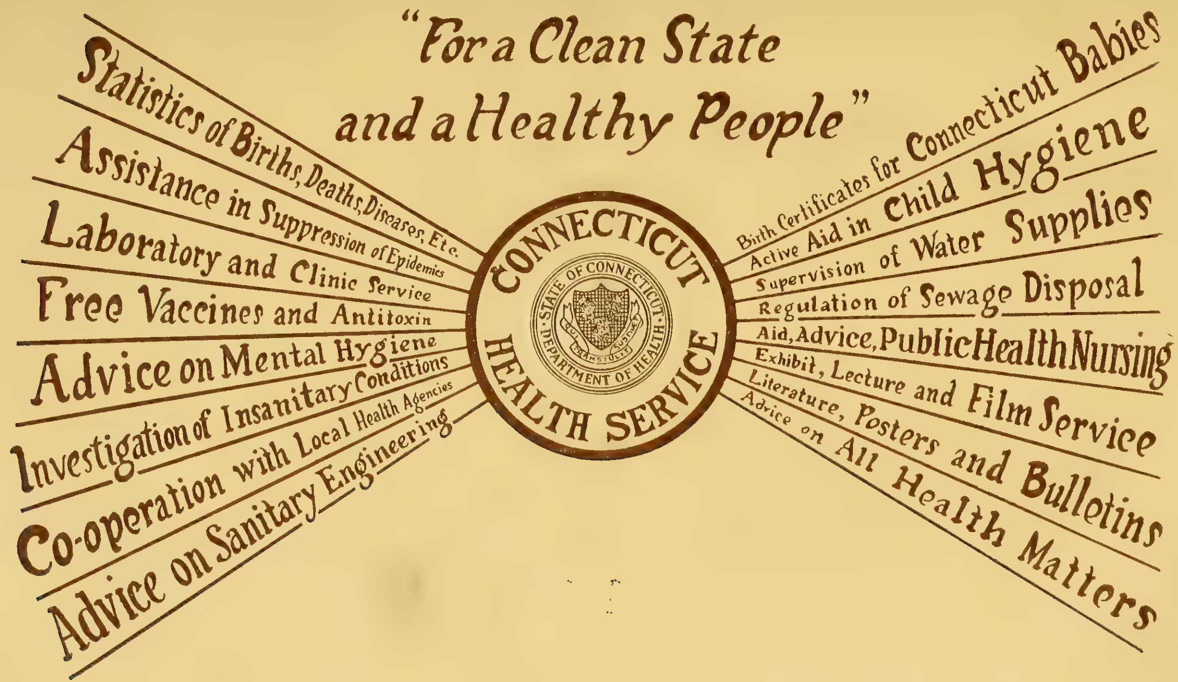
Provisional Summary for 5 Years

Year	Total Deaths	Death Rate	Deaths Under 1	Rate per 1,000 births	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis (Pulmonary)	Tuberculosis (Other forms)	Pneumonia All forms	Cancer	Poliomyelitis	Cerebrospinal Meningitis	Diarrhoea and Enteritis (Under 2)	Puerperal State	Suicide	Accident	Homicide
1920	18,923	13.6	3,144	92.0	58	137	74	218	235	1,254	1,441	210	2,085	1,390	23	63	719	194	153	1,023	51
1921	16,168	11.4	2,489	72.8	49	43	102	137	176	193	1,186	172	1,382	1,380	25	47	473	178	203	983	42
1922	17,437	12.0	2,410	77.1	43	109	62	83	186	518	1,202	140	1,764	1,510	16	45	416	176	170	1,025	42
1923	17,733	12.0	2,350	76.4	38	160	53	133	187	562	1,166	152	1,878	1,449	10	45	314	183	196	1,057	46
1924	16,975	11.3	2,175	69.0	38	45	60	77	168	286	1,054	167	1,508	1,563	22	22	294	180	155	1,119	51

Total Births, 1920, 34,205; 1921, 34,189; 1922, 31,303 1923, 30,757; 1924, 31,505

January 31, 1925.

The Monthly Health Bulletin published by Connecticut State Department of Health will be sent to any resident of Connecticut on request.


"For a Clean State and a Healthy People"
CONNECTICUT HEALTH SERVICE
STATE OF CONNECTICUT DEPARTMENT OF HEALTH
Statistics of Births, Deaths, Diseases, Etc.
Assistance in Suppression of Epidemics
Laboratory and Clinic Service
Free Vaccines and Antitoxin
Advice on Mental Hygiene
Investigation of Insanitary Conditions
Co-operation with Local Health Agencies
Advice on Sanitary Engineering
Birth Certificates for Connecticut Babies
Active Aid in Child Hygiene
Supervision of Water Supplies
Regulation of Sewage Disposal
Aid, Advice, Public Health Nursing
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Advice on All Health Matters

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 39 March, 1925 No. 3

This Issue Contains

STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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HARTFORD

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8 WASHINGTON STREET,
HARTFORD

CONNECTICUT
HEALTH BULLETIN

Vol. 39 | March, 1925 | No. 3

Issued Monthly by the
STATE DEPARTMENT OF HEALTH

YOU HAVE BEEN RECEIVING THE MONTHLY HEALTH BULLETIN ISSUED BY THIS DEPARTMENT. WE ARE REVISING OUR MAILING LIST OF THOSE RECEIVING THIS BULLETIN AND IF YOU DESIRE TO HAVE YOUR NAME RETAINED ON THE MAILING LIST PLEASE TEAR OFF AND RETURN TO

CONNECTICUT STATE DEPARTMENT OF HEALTH
Box K, Station A, Hartford, Conn.

Please retain my name on the mailing list of the

MONTHLY BULLETIN

Name .... Position or Title ....

Organization ....

City or Town ....

State ....

Public Health Instruction

COMMUNITY CONSCIOUSNESS FOR CLEANLINESS

The winter season has left an accumulation of dirt and filth which stirs the conscience when the bright light of early spring throws it into bold relief. Nature sets a good example in the annual clean-up by sending torrential rains, one of the best cleansing agents, and warm sunshine under whose influence no germs can live long.

Clean-up Starts at Home

The housekeeper starts by cleaning up at home. Her first move is to take down the draperies, open up all the windows, and let the sunlight flood her rooms. This is a health measure as well, for fresh air and sunshine are life giving. Recent scientists have discovered that the direct rays of the sun are a sure cure for rickets, and tuberculosis treatment depends on the sun for a therapeutic agent.

Warm water and soap, and much "elbow grease" are the best means of ridding the house of dirt. Even when some contagious disease has prevailed these are the effective agents for cleaning up, and destroying the disease germs that may lurk in the corners.

DO IT NOW

If you want your name retained on the mailing list to receive this bulletin sign the other side

Tear off this section and return at once to

CONNECTICUT STATE DEPARTMENT OF HEALTH
Box K, Station A, Hartford, Conn.

Community Clean-up

The clean-up campaign is really a health measure. Such a campaign includes:—

Destruction of flies and their breeding places. The screening of doors and windows is only a small part of the fly campaign. Of prime importance is the destruction of flies at the source. Flies breed in filthy places and it is at this point where the fly campaign should begin. Manure piles, old rubbish heaps with moist decaying rags and papers, are excellent breeding places for flies in any town. Unless some measure is adopted to clean up these places flies will be attracted to such a town and abide there, growing more and more numerous day by day. In warm weather it takes about ten days for flies to develop from the egg to the adult stage, that is, if conditions are right. Any town that provides these conditions such as warm moist filth piles, or open garbage cans partly filled with decaying food, are putting up a sign "Flies—Welcome to our city," which has just as prominent as the visible sign which appears at the entrance to the highway.

To get rid of such breeding places becomes a community as well as an individual problem. Perhaps the farmer who allows his manure pile to accumulate, accessible to flies, does not know what a menace this is. It is then the responsibility of the clean-up campaign committee to educate him to the dangers of flies and the means of getting rid of them. If his manure is spread on the ground, each week, it is given a chance to dry, and so eliminate fly-breeding, as the female fly will not lay eggs in a place that is not moist. Or, if the manure is allowed to accumulate in a bin thoroughly screened, the female fly can not get in to lay eggs. Or, the manure pile may be treated each day by borax (two thirds of a pound for each eight bushels of manure) or helebore (one half pound in ten gallons of water for each eight bushels of manure;) these kill the eggs and larvae within the manure pile, and at the same time are reported not to affect the manure as a fertilizer. Or, maggot traps can be constructed, to rid the manure pile of maggots, one of the important stages in the life history of the fly. All these measures are described in detail in "The House Fly" by W. E. Britton, Ph. D., which this department will send you on request.

Another source of flies may be the town restraunt with its doors and windows not carfeully screened, its rear premises cluttered with rubbish and decaying food, and its garbage collecting in boxes and cans without tight covers; or the town market with just such conditions duplicated,

to the end that flies are attracted instead of repelled, and food left exposed may be contaminated and so cause the spread of disease.

If the proprietors of these places do not have a conscience of their own, it is again the duty of the community to clean up such places.

Many people wait until flies appear before screening doors and windows. This is an unwise plan since flies become active at the first suggestion of warmth in the air, and the house that is unprepared is soon swarming with flies. Screens should be taken out early and mended for all cracks and holes, and attached so securely to windows and doors that it becomes an easy matter to keep them closed at all times. Flies are a source of danger in the house since they are no respecters of persons or things, and deposit filth and disease germs on all surfaces. If this happens to be food left exposed this may provide an excellent means of spreading some disease germ, for flies may have lately visited some sick room with perhaps a tuberculosis patient or been feeding on a neighbor's unscreened privy, or just emerged from the manure pile with perhaps typhoid or diarrhoea germs still clinging to their legs and body.

If every family could learn to look upon flies as a source of danger, and not merely an annoyance, they would soon realize their own responsibility in getting rid of flies in their immediate vicinity, and do all in their power to make their town flyless. Flies abhor a clean town.

Cleaning Up the Rubbish. Until a whole town acquires a consciousness for cleanliness, open spaces will remain dumping grounds for rubbish, papers will blow about, and dirt and filth will accumulate in the corners. Every town should have a safe plan for disposal of its waste and rubbish and should not allow every hollow and vacant lot to become a dump. If one's approach to the town is by train one's first impression is made at this point. It is poor advertisement for any town to allow its station platform and train yard to be cluttered up with papers and filth. Could the city fathers arrive in this manner and view their own town as a stranger does—no time would be wasted in starting the clean-up campaign here.

Waste paper baskets are in daily use in the home, why not on the green, or the sidewalks? These should be neat in appearance, plentiful in number and prominent enough to demand constant use. These contributions should be gathered daily and safely disposed of by burning.

Focussing Attention on the Dangers of Spitting. The Connecticut law states that "no person shall spit on the paved walk of any public street, park or square, or upon the floor of any hall or office, in any toilet, restaurant, apartment house, tenement or lodging house which is used in common by the guests or tenants thereof, or upon the floor, platform, step or stairs of any public building, church, theatre, railway station, store, factory or street car or other public conveyance."

This law is broken daily, and it should be a part of the clean-up campaign to direct public opinion to this dangerous practice by which disease germs may be spread from one person to another. By the light of such publicity the individual conscience will soon be aroused and such unclean habits terminated.

Safeguarding the public against disease germs

The clean-up campaign may do much to stimulate a united interest in the protection of the local watersheds, so that the community may be assured of safe water supply free from contamination.

In public places where drinking water is made available, bubbling fountains should be installed. These should be of the safe variety where the stream of water is directed upward with sufficient force, and at such an angle as to make it impossible for the lips to touch the base, and endanger others by depositing disease germs. The installation of bubbling fountains in a town or city might well claim the attention of community groups as a fitting memorial, or a civic enterprise. Protection of the public against disease germs should be extended to include the covering of all food exposed for sale, the use of paper cups or properly sterilized glasses at all stands and stores where soft drinks are sold, and the wide-spread use of paper towels in public places.

Beautifying the Ugly Spots

Aside from being insanitary and dangerous to health, dumping in vacant lots detracts from the beauty of any town. If land is being reclaimed by filling in a hollow, a process which takes many months and even years, such an ugly spot may well be beautified meanwhile by planting vines, bushes or trees to conceal it. Such a plan has been successfully used to conceal sewage disposal plants, and thereby add a real beauty spot to the city.

Civic pride is fostered by such measures of cleanliness and improvement.

Vital Statistics

MONTH OF JANUARY, 1925

Births

Behind us lies 1924, a banner year in the history of Connecticut's health, with the lowest death rate ever recorded and an actual increase in the birth rate.

What measure of health or disease will be ours in 1925 we cannot foretell, but must slowly paint in the picture month by month until it is complete and its story is revealed.

The part of the picture made by the month of January is dark, indeed, as compared to that of January, 1924, because there is a marked decrease in the number of births and a sharp increase in the number of deaths, which have been reported.

The total number of births reported was 2,446, a figure 242 lower than the 2,608 reported in January, 1924. The birth rates for January, 1924 and 1925, are 21.5 and 19.2 respectively.

For the five year period 1920-1924 the average number of births is 2,818, hence this month's total is 372 below the five year average.

We find some explanation of the above figures in the fact that only 5 towns out of 169 in the state show an increase of 10 or more in the number of births registered this month as compared with January, 1924. The 5 towns, with the actual increase follow below:

Bridgeport	25	Bristol	10
Manchester	11	Waterbury	10
Windham	11		

There were 120 stillbirths recorded, making the total of births and stillbirths 2,566. Of this total the stillbirths constitute 4.6 per cent. The total births and stillbirths for January, 1924, was 2,661, of which the stillbirths constituted 4.0 per cent.

Deaths

A year ago this month we rejoiced in the fact that the deaths reported were far below those of the previous year. Unfortunately we cannot report such good news this month, but will have to state that 1,666 deaths were reported, a figure which exceeds the 1,556 of last year by 110. The respective death rates for January, 1924 and 1925, are 12.4 and 13.1.

The average number of deaths for the five year period 1920-1924 is 1,669, from which is seen that the 1,666 of this month only differs by 3. Evidently this month's deaths are not excessive, being about the average, yet they are not at the low level of last year which is what we most desire.

The table below shows which diseases are responsible for the increase in the deaths this month.

CAUSE OF DEATH	1925	1924	INCREASE	DECREASE
Diseases of the Heart	253	231	22	....
Epidemic Encephalitis	3	2	1	....
Pneumonia Undefined	2	11	....	9
Typhoid Fever	3	1	2	....
Measles	1	7	....	6
Scarlet Fever	7	8	....	1
Whooping Cough	8	9	....	1
Diphtheria	16	19	....	3
Influenza	47	26	21	....
Tuberculosis, Pulmonary	95	87	8	....
Tuberculosis, Other Forms	8	15	....	7
Cancer	129	130	....	1
Cerebro-Spinal Meningitis	3	1	2	....
Poliomyelitis	2	1	1	....
Pneumonia, Lobar	115	75	40	....
Pneumonia, Broncho	114	84	30	....
Diarrhoea and Enteritis, Under 2	16	23	....	7
Puerperal Diseases	6	26	....	20
Accident	83	91	....	8
Suicide	12	6	6	....
Homicide	3	4	....	1
Other Causes	740	699	41	....
Totals	1,666	1,556	174	64

The above table shows that the principal cause for the increase this month is pneumonia. This is to be expected at this time of year, but that such a sharp increase, 70, should occur is to be regretted. Prevention of this disease is as much a matter of personal hygiene as of public health. The individual must regulate his own living, conserve his energy, build up his resistance by the proper health habits, rather than look to medicine for a panacea or preventive against attack.

Heart disease and influenza, with increases of 22 and 21 respectively add their bit to the rising tide.

Of the deaths from accidents, 83 in number, only 13 were attributed to automobiles. This figure is 1 less than the 14 reported in January, 1924.

Marriages

There were 739 marriages reported this month, the lowest reported in January during the last six years. In January 1924, there were 820 marriages with a rate of 6.5. The rate for this month is 5.8.

January Statistics 1925	Population Est. as of July 1, 1925 Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Still Births	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population	Children under 1 year (per 1,000 births	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,529,688	2446	120	739	1666	13.1	0.7	88.7	233	64	640
Ansonia	19,034	29		5	12	7.6		80.3	2		4
Branford	6,954	6		1	3	5.2					1
Bridgeport	166,644	271	18	74	167	12.0	0.8	62.3	17	6	56
Bristol	24,621	62	2	6	22	10.7	1.0	59.7	3	2	9
Danbury	21,931	41	3	8	38	20.8	1.1	140.1	6		13
Derby	12,500	30	2	4	22	21.1		165.8	6	3	4
East Hartford	13,616	13		3	3	2.6		81.6	1		2
Enfield	12,834	27	1	9	12	11.2	0.9	122.0	3		4
Fairfield	14,490	19		6	8	6.6	0.8	54.8	1		3
Glastonbury	6,042	8	1	1	3	6.0					2
Greenwich	25,207	34	2	37	26	12.4	0.5	50.4	2	1	11
Groton	10,764	5	1	3	8	8.9		90.2	1	1	4
Hamden	10,150	8		5	5	5.9	1.2	61.2	1		1
Hartford	160,199	338	16	111	185	13.9	1.2	89.2	30	7	54
Killingly	9,051	7		4	3	4.0		123.1	2	1	
Manchester	21,018	48	1	9	14	8.0		26.4	1		5
Meriden	36,251	69	2	13	44	14.6	0.7	85.9	5	2	18
Middletown	22,649	39	2	8	46	24.4		65.2	3	1	23
Milford	13,473										
Naugatuck	16,350	12		7	6	4.4					4
New Britain	67,896	115	8	23	62	11.0	1.8	102.0	14	10	6
New Haven	178,735	323	13	102	220	14.8	0.7	95.6	32	8	87
New London	29,003	50	1	18	41	17.0	1.7	93.1	6	1	20
Norwalk	29,596	41	5	14	40	16.2		69.3	4		22
Norwich	30,425	71	3	14	60	23.7	1.2	101.7	7	1	18
Plainfield	8,570	13	1	3	5	7.0	1.4	172.7	2		3
Plymouth	6,349	8		2	2	3.8				1	1
Putnam	8,990	23	3	5	12	16.0		104.8	2		4
Seymour	7,911	2		4	8	12.1	1.5	93.8	1	1	4
Shelton	11,134	13	3	5	21	22.6		70.2	1	1	8
Southington	9,529	18	1	3	11	13.9	1.3	64.9	1	1	8
Stafford	5,457	27		5	2	4.4					2
Stamford	46,218	87	3	41	72	18.7	0.8	92.5	9	4	30
Stonington	10,819	12		6	14	15.5	1.1	70.2	1		8
Stratford	16,085	16	1	3	8	6.0				1	2
Thompson	5,196	6	2	5	3	6.9					1
Torrington	24,492	41	1	9	14	6.9		45.5	2		4
Vernon	8,822	15		2	7	9.5	2.7	96.0	1		2
Wallingford	12,483	8		13	17	16.3	1.0	260.9	4		9
Waterbury	102,134	177	7	46	109	12.8	0.5	118.9	25	7	27
Watertown	7,192	8	1	2	4	6.7	1.7			1	1
West Hartford	11,146	11	1	5	9	9.7		125.7	2		2
West Haven	17,834	30	1	9	24	16.1	0.7	28.8	1		12
Westport	5,597	5		3	6	12.9					3
Winchester	9,129	11	3	4	14	18.4		217.2	4		9
Windham	14,368	35	1	7	23	19.2		34.7	1		10
Windsor	6,436	4		2	4	7.5					3
Towns under 5,000	209,346	201	10	70	227	13.0	0.6	120.5	29	3	116

for the Month of January, 1925

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
253	3	2	3	1	7	8	16	47	95	8	129	3	2	115	114	16	6	83	12	3	557	240
......	......	......	......	......	......	......	......	......	......	......	1	......	......	2	1	......	......	1	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1
37	......	......	......	......	......	......	2	8	7	1	11	1	......	8	14	1	......	14	1	1	77	13
5	......	......	......	......	......	......	......	......	1	......	1	......	......	2	1	......	......	1	......	......	2	1
7	......	......	......	......	......	1	......	1	2	......	2	......	......	4	......	1	......	1	......	......	13	5
1	......	......	......	......	......	......	......	......	......	1	3	......	......	......	3	......	1	1	......	......	9	10
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	1	......	1	1	......	1	......	......	......	......	1	......	......	1
......	......	......	......	......	......	......	......	......	1	......	......	......	......	1	1	......	......	......	1	......	......	......
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......
3	......	......	......	......	......	......	......	......	1	......	3	......	......	3	1	......	......	......	......	......	8	3
......	......	......	......	......	......	1	......	......	......	......	2	......	......	1	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	......	......	......	2	1	......	......	......	......	......	......	......
22	......	......	1	......	......	......	2	3	10	......	16	......	1	17	17	2	1	11	2	......	94	38
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	......
2	......	......	......	......	1	......	......	......	......	......	3	......	......	......	1	......	......	......	......	......	7	1
3	1	......	......	......	......	......	1	1	2	......	1	......	......	5	2	......	1	1	......	......	12	4
9	......	......	......	......	1	......	......	1	3	......	5	......	......	5	1	......	......	2	1	......	26	16
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......
4	......	......	1	......	1	1	3	1	8	1	5	......	1	6	4	2	......	4	......	......	21	3
32	1	......	......	......	......	......	2	6	7	1	21	......	......	23	21	......	1	7	......	2	88	28
8	......	......	......	......	......	......	1	......	2	......	4	......	......	1	3	......	......	1	......	......	12	6
11	......	......	......	......	......	1	......	......	......	......	6	......	......	2	......	......	1	2	......	......	11	4
6	......	......	1	......	......	......	......	5	12	......	4	......	......	6	5	......	......	6	......	......	33	14
1	......	......	......	......	......	1	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	1	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1	......	1	3	......	......	5	2
......	......	......	......	......	......	......	......	2	1	......	......	......	......	......	2	1	......	......	......	......	......	......
1	......	......	......	......	......	......	1	1	9	......	......	......	......	......	3	......	......	......	......	......	9	9
2	......	......	......	......	......	......	......	......	1	......	......	......	......	1	1	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
16	......	......	......	1	2	......	4	4	2	......	5	......	......	2	4	......	......	4	......	......	25	7
5	......	......	......	......	......	......	......	......	1	......	1	......	......	2	1	......	......	......	......	......	......	......
3	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	4	......	......	1	......	......	1	1	......	......	......	1	......	3	......
......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	1	1
2	......	......	......	......	......	......	......	......	1	1	1	......	......	4	1	......	......	......	......	......	4	......
12	......	......	......	......	1	1	......	5	4	1	10	1	......	4	6	2	......	9	1	......	36	13
1	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......
......	1	......	......	......	......	......	......	1	......	......	......	......	......	......	1	2	......	......	......	......	5	2
4	......	1	......	......	......	......	......	1	5	......	......	......	......	......	2	......	......	1	1	......	4	4
1	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	2	3
......	......	1	......	......	......	1	......	......	......	......	2	......	......	......	2	......	......	2	......	......	4	3
6	......	......	......	......	......	......	......	1	......	2	1	......	......	3	......	......	......	1	......	......	6	3
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......
43	......	......	......	......	1	1	......	2	12	......	17	......	......	7	7	5	......	11	3	......	40	44

Towns not reporting,

January, 1925

BIRTHS

Barkhamsted
Bloomfield
Burlington
Canaan
Canterbury
Coventry
Franklin
Mansfield
Milford
Orange
Plainville

MARRIAGES

Canaan
East Granby
East Haddam
East Haven
Franklin
Harwinton
Ledyard
Milford
Plainville
Rocky Hill
Wilton

DEATHS

Coventry
Franklin
Milford
Orange
Plainville

Six Year Study—January, 1920-1925

CONNECTICUT	1920	1921	1922	1923	1924	1925
BIRTHS *Birth Rate*	2981 25.7	2954 25.0	2885 23.9	2584 21.0	2688 21.5	2446 19.2
DEATHS *Death Rate*	1828 15.7	1534 13.0	1595 13.2	1833 14.9	1556 12.4	1666 13.1
MARRIAGES *Marriage Rate*	988 8.5	960 8.1	767 6.4	777 6.3	820 6.5	739 5.8
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	347 9.0	217 14.1	202 12.7	257 14.0	159 10.2	182 10.9
DEATHS UNDER 1 YEAR *Rate per 1000 births*	252 88.4	256 89.9	210 80.5	238 92.8	220 83.8	233 88.7

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

When five per cent or more of the towns in a state fail to report the statistics are inaccurate.

The above list of seventeen towns represents ten per cent.

Sanitary Engineering

THE SEVEN MONTH DROUGHT OF 1924

The year 1924 showed a marked deficiency in rainfall over the entire state. The drought differed from that of 1923 in that it was state-wide rather than confined to certain sections and also that it was of much longer duration.

In the accompanying table is shown the annual rainfall compared to the average rainfall for the varying lengths of time that records have been kept at the different stations. Eight stations were chosen, one in each of the counties of the state.

A comparison is shown between the rainfall in 1924 and the previous driest year on record. It is to be noted that in Hartford less rain fell than in any year in the 57 years records have been kept. In Middletown, the 1924 rainfall closely approached the dry record.

It is customary to total the rainfall for the six months from June to November, because experience has shown that drainage areas furnish smaller percentages of run-off during these months. In the table there is, therefore, shown a comparison of the six months period in 1924 with previous dry records.

In 1924, however, the drought was more than seven months in length, and for that reason, the rainfall from June to December is also compared with previous years. The Hartford figure for 1924 is considerably lower than any previous record. In New London, Midletown and Bridgeport, the figures are almost as low as in the previous driest years and in New Haven it is necessary to go back to the year 1819 to unearth the remarkably low rainfall of 13.72 inches from June to December.

The figures are borne out by the facts. The public water supply in Shelton became exhausted during the latter part of November, 1924. Pumping from the Housatonic became necessary. Rain then relieved the shortage in Shelton temorarily but in the early part of January, 1925, the public supplies of both Shelton and Derby became exhausted and both supplies were augmented by pumping from the Housatonic River. Th emergency supply was chlorinated under the supervision of the State Department of Health, but in order to guard against a possible break-down of the chlorinating equipment, notices to boil the water were issued to the consumers.

Rainfall in Inches

	Bridgeport	Cornwall	Hartford	Mansfield	Middletown	New Haven	New London	Thompson
ANNUAL PERIODS								
1924 Annual Rainfall	40.22	40.81	33.54	36.25	36.17	38.27	37.77	34.78
Average Annual Rainfall	46.45	46.68	45.43	43.14	47.17	47.31	42.60	43.47
Deficiency in 1924	6.23	5.87	11.89	6.89	11.00	9.04	4.83	8.69
Driest Annual Rainfall on Record	36.46	30.18	33.64	33.12	34.00	33.89	30.05	26.20
SIX MONTH PERIODS								
June-November, 1924	15.39	19.28	13.88	14.58	16.61	13.62	14.86	14.71
June-November, Previous Driest Record	14.52	16.12	13.51	11.87	14.52	11.37	12.75	11.53
SEVEN MONTH PERIODS								
June-December, 1924	17.92	21.10	15.78	16.46	18.88	16.47	16.90	16.44
June-December, Previous Driest Record	17.83	19.13	17.24	15.19	18.06	13.72	16.88	13.02

The water supply of Farmington was depleted in January, 1925, and it was necessary to pump water from the Pequabuck River. This river receives considerable pollution from the factory wastes and from sewage in Terryville, Bristol, Forestville and Plainville. An emergency chlorinator was installed by the State Department of Health but this was later replaced by a chlorinator secured by the water company. The consumers were notified to boil all water used for drinking purposes.

In Norwich, the officials saw the danger of an impending shortage in the late fall and plans were drawn up and approved for the construction of an emergency pumping station on Trading Cove Brook, a rather sparsely settled watershed west of the city. An inspection of the watershed revealed a number of dangerous conditions which were promptly cleaned up by the city officials. In the latter part of December, the water was diverted into the Stony Brook supply main, and the Stony Brook chlorinator was used to disinfect the water. The issuing of notices to boil water in this case was not deemed necessary owing to the better character of the watershed.

The run-off from thaws and rainfall in the latter part of January, 1925, allowed the abandonment of all the emergency supplies, except in Norwich, where pumping is still necessary to insure filling the reservoirs.

In all of the above named cases, the officials had been warned of the danger of shortage from a prolonged drought but for financial reasons they had postponed the adoption of needed enlargements. It is expected that steps will soon be taken to improve conditions.

In a monthly bulletin issued just one year ago, this Department called attention to the short duration of the 1923 drought, the fact that it was localized and gave a warning to provide adequate storage or increased drainage areas. It is hoped that the 1924 drought has demonstrated that steps should be taken to improve conditions. Although the time may be far distant when lack of rainfall will deplete supplies with limited drainage areas but large storage, there are a number of such supplies in Connecticut, the officials of which have been advised that enlargements should be made to forestall such an emergency. The risk and inconvenience in allowing a populated community to face a depleted safe water supply is so great that it more than overbalances the serious financial difficulties which the prevention of possible depletion often entails.

Laboratories

REPORT OF THE BUREAU OF LABORATORIES FOR FEBRUARY, 1925

DIAGNOSTIC DIVISION

	+	—	?	Total
Typhoid				
Blood for Widal	4	40	....	44
Blood cultures	....	6	....	6
Feces	4	56	....	60
Urine	1	37	....	38
Paratyphoid A				
Blood for Widal	....	44	....	44
Feces	....	60	....	60
Urine	....	38	....	38
Paratyphoid B				
Blood for Widal	9	32	3	44
Feces	12	48	....	60
Urine	7	31	....	38
Diphtheria, Cultures				
Diagnosis	204	632	....	836
Release	170	264	....	434
Diphtheria, Carriers				
Diagnosis	152	858	....	1010
Release	6	60	....	66
Diphtheria Virulence	2	20	....	22
Vincent's Angina	1	802	....	803
Haemolytic streptococci	30	772	....	802
Tuberculosis	13	97	....	110
Syphilis	137	1323	124	1584
Colloidal Gold Test for Spinal Fluids	2	15	2	19
Gonorrhoea	14	123	....	137
Malaria	....	2	....	2
Rabies	1	1	....	2
Feces				
Pinworm	1	....	....	1
Tuberculosis	....	2	....	2
Glanders	....	....	2	2
Special specimens	1	7	....	8
Totals	771	5370	131	6272

CHEMICAL DIVISION

Towns sending milk samples	37
Milk samples tested	216
Milk samples below fat standard	6
Milk samples indicating watering	1
Towns sending water samples	88
Water samples	226
Total	442

Total specimens examined:

diagnostic	6272
chemical	442
Total	6714

Preventable Diseases

TRAILING THE ELUSIVE TYPHOID GERM

Case Number 1. A woman living on a Connecticut farm became ill. The doctor made a diagnosis of typhoid fever. Whether due to the typhoid germ or a paratyphoid germ was not ascertained. The patient had not been away from home. The only visitors were her daughters and their husbands, none of whom gave a history of having had typhoid fever. The water supply came from a spring which furnished water to four or five families. The milk supply was from a neighbor who had been ill several months previously and the laboratory had reported a partial positive Widal reaction for the germ of paratyphoid B. As the case cleared up quickly a diagnosis of typhoid fever apparently was not made as the case was not reported.

From the foregoing information obtained on investigation it appeared possible that the neighbor might have had typhoid. Specimens examined in the laboratory showed this neighbor to be a carrier of the paratyphoid B germ in both feces and urine. The conclusion reached was that infection came through the milk supply from a carrier who had had paratyphoid fever some months previously.

Case Number 2.—A Connecticut man came down with typhoid fever and died. Before his death two of his children and a nephew visiting the family from another state became ill of typhoid fever. The family lived on a farm and no other cases of typhoid were known to have occurred in the vicinity. According to information obtained the man had not been away from home recently except to work two or three days for a neighbor about a week or ten days prior to the onset of the disease. The neighbor who came from New York to spend his vacation on a Connecticut farm gave a history of having typhoid fever 32 years ago. Specimens were obtained from the neighbor for laboratory examination and the germ of paratyphoid A was isolated from the urine. But the present cases were infected with the germ of typhoid and not paratyphoid. The man having returned to his home, specimens were examined by the New York City Health Department and the typhoid germ isolated from his stool. Thus it appears that he was a carrier of the germs of both paratyphoid A and typhoid, though he did not know it, and

was probably the unconscious source of infection for the Connecticut farmer, who in turn passed on the infection to his two children and his nephew.

These two cases are cited to illustrate the method of searching for the source of infection in typhoid fever. The fundamental principle to remember is that whether the infection is carried by milk, other food, water, flies, or something else, the original source of infection is always a person who is either a case or a carrier. Thus when a case of typhoid occurs, friends of the patient who give a history of ever having had typhoid fever should be examined to ascertain whether or not they may be germ carriers.

The idea that the typhoid germ is sometimes carried in water is so thoroughly fixed in peoples' minds that a demand to have the water examined is usually made when a case of typhoid occurs. Since the typhoid germ does not live very long outside the human body it is obvious that contaminated water must have received the infection rather recently from some person. The search for the source of infection is not completed until this person who may be a case or carrier has been found.

When several cases of typhoid have received infection from the same source, evidence pointing to this source may often be obtained by ascertaining the possible sources for each case, and thus finding a "common factor." This method of investigation now employed by all epidemiologists greatly simpilfies the search for the source of infection. But the method cannot be applied to a single case. Here all possible sources must be studied. Those involving contact with a case or carrier, either direct contact by living in the same house or indirect contact through milk, food or drink, are most likely to yield positive results.

INCIDENCE OF DISEASE FOR MONTH OF FEBRUARY, 1925

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of February, 1925, with the corresponding month for the years 1920, 1921, 1922, 1923 and 1924.

Disease	Average 1920-1924 for Feb.	Mean 1920-1924 for Feb.	1920	1921	1922	1923	1924	1925
Cerebrospinal Meningitis ..	8	9	9	8	12	9	2	2
Diphtheria	269	255	281	389	255	191	229	202
Encephalitis Epidemic	13	11	4	16	11	34	2	4
Measles	974	829	1165	756	545	1575	829	259
Poliomyelitis	2	1	1	1	4	1	2	1
Scarlet Fever	505	375	365	679	375	362	746	725
Smallpox	16	65	......	......	65	10	7	......
Typhoid Fever	8	6	6	17	7	5	5	14
Tuberculosis (pulmonary)	132	133	98	188	140	101	133	103
Whooping Cough	247	255	255	376	112	303	188	197

A comparison of the morbidity on these diseases for the two preceding months, December and January with the February record is as follows:

	December	January	February
Cerebrospinal Meningitis	1	5	2
Diphtheria	293	246	202
Encephalitis Epidemic	7	6	4
Measles	71	231	259
Poliomyelitis	2	2	1
Scarlet Fever	824	814	725
Smallpox	......	......	......
Typhoid Fever	33	16	14
Tuberculosis (pulmonary)	105	121	103
Whooping Cough	222	306	197

Cases of Other Reportable Diseases February, 1925

Chickenpox	349	Pneumonia (Broncho)	196
Conjunctivitis Infectious	1	Septic Sore Throat	21
Ophthalmia Neonatorum	1	Trachoma	2
Encephalitis Infectious	4	Trichinosis	3
German Measles	184	Gonorrhoea	80
Influenza	78	Syphilis	138
Mumps	170	Chancroid	2
Paratyphoid Fever	23	Total	1,252

Cases of Occupational Diseases

Eczema	1	Dermatitis Venenata	1
Bronze Poisoning	1	Lead Poisoning	4
Dermatitis, both hands	1	Mercurial Poisoning	1
		Total	9

Cases of Certain Reportable Diseases

February, 1925 1925	Population Est. as of July 1, 1925	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Cerebrospinal Meningitis	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com Diseases
State Total	1,529,688	14	259	725	197	202	2	1	103	10	227	1252
NEW HAVEN CO.	459,157	5	72	225	38	49	1		28		74	489
New Haven	178,735	2	50	119	18	3			19		33	279
Waterbury	102,134		3	26	2	18	1		3		14	52
Meriden (city and town)	36,251			11	3	2					8	32
Ansonia	19,034		4	12		3			1		4	5
West Haven	17,834	1	2	14	1	4					2	8
Naugatuck	16,350								1		1	
Wallingford (town and boro)	12,483	1		1		9					3	2
Milford	13,473			2					1		6	1
Derby	12,500			5		1						2
Hamden	10,150	1	3	25	13	1			1			33
Branford (town and boro)	6,954		8			2						21
Seymour	7,911		2	3		2						1
Towns under 5,000	25,348			7	1	4			2		3	53
FAIRFIELD CO.	363,740	2	10	153	16	37		1	20		55	133
Bridgeport	166,644	1	8	90	3	20			12		32	51
Stamford (city and town)	46,218		1	34	3	4			4		3	19
Norwalk	29,596				2	4						1
Danbury (city and town)	21,931			1				1			1	
Greenwich (town and boro)	25,207			2	4				4		10	14
Stratford	16,085			5	1	5					3	7
Fairfield	14,490			3	1							12
Shelton	11,134			14		3					1	3
Westport	5,597			3							1	
Towns under 5,000	26,838	1	1	1	2	1					4	26
HARTFORD CO.	384,608	4	18	250	96	93			39	8	65	358
Hartford	160,199	1	5	34	35	44			21	2	31	174
New Britain	67,896		5	128	1	23			11	6	16	31
Bristol (city and town)	24,621			31	50	10			2		2	6
Manchester	21,018			21					1		3	32
Enfield	12,834		4			6						1
East Hartford	13,616			3							4	5
Southington (town and boro)	9,529		2	7		1						9
West Hartford	11,146			8	4	2			2		4	60
Windsor	6,436	1		2		1			1		1	3
Glastonbury	6,042	1										2
Towns under 5,000	46,253	1	2	16	6	6			1		4	35
NEW LONDON CO.	112,155	1	6	23	25	8			10		10	70
Norwich (city and town)	30,425	1	1	4		3			3		3	2
New London	29,003		2		4	3			3		1	24
Stonington (town and boro)	10,819		1	7							1	34
Groton (town and boro)	10,764			3	14	1					2	9
Towns under 5,000	31,144		2	9	7	1			4		3	1
LITCHFIELD CO.	79,851		2	30	2	7					5	39
Torrington (town and boro)	24,492											1
Winchester (inc. Winsted)	9,129					1						
Plymouth	6,349			1		2					2	
Watertown	7,192		1	2								
Towns under 5,000	32,689		1	27	2	4					3	38
WINDHAM CO.	55,360		3	14	1	4	1		1	2	8	28
Windham (inc. Willimantic)	14,368			5	1	3					2	7
Putnam (city and town)	8,990			3							1	
Plainfield	8,570					1					2	3
Killingly (inc. Danielson)	9,051		2	3						2	1	5
Thompson	5,196								1			1
Towns under 5,000	9,185		1	3			1				2	12
MIDDLESEX CO.	47,152	1	147	26	18	3			1		7	122
Middletown (city and town)	22,649	1	2	13		1						1
Middletown State Hospital									1			1
Towns under 5,000	24,503		145	13	18	2					7	120
TOLLAND CO.	27,665	1	1	4	1	1			4		3	13
Vernon (inc. Rockville)	8,822			3					2			
Stafford (town and boro)	5,457		1		1						1	
Towns under 5,000	13,386	1		1		1			2		2	13

(For cases of other reportable diseases, see page 63)

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

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STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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CONNECTICUT
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SURVEY OF WATER SUPPLIES OF RURAL SCHOOLS IN CONNECTICUT

Many of the water supplies of rural schools in Connecticut have either never been analyzed or the analysis has been made so far in the past that no information is at hand in regard to it.

An analysis of a well or spring without a careful sanitary survey of the surroundings is of little value. Many individuals think that it is possible by analysis to class water definitely as good or bad just as one might differentiate between good and bad money. It is possible to pronounce a water which analyzes well as "safe at the time of collection," but the same supply might analyze poorly after a heavy rain which washed contamination into it. A poor bacteriological analysis immediately raises suspicion as to the quality of the water. A chemical analysis may be unsatisfactory due to a high content of "chlorine" and "nitrates" which generally accompany pollution of a water supply. On the other hand these high amounts of chemical constituents might be due to harmless dissolved mineral matter.

For these reasons, an analysis of water must be reported in the light of information as to the source and its surroundings. The Bureau of Sanitary Engineering in the past few weeks has detailed an inspector to collect samples of water supplies of rural schools for analysis in the Laboratory of this Department and to note the conditions surrounding these supplies.

Up to April 1st, the supplies of 97 rural schools have been inspected and analyzed. The results of the inspections and analyses are probably representative of conditions over the entire State, and are illuminating.

Of the 97 supplies, 75 were obtained from wells, 21 from springs and 1 from a running stream. In general it may be noted here that water obtained from a running stream without storage or other form of purification cannot be considered a safe source of supply. Twenty-six of the wells or springs are

located on school property. The remainder of the schools secure a daily supply of water from neighboring wells, or the children are allowed to visit these wells to obtain water when desired; or in some cases water is piped from the spring of a neighbor.

Classification of Supplies. The sanitary qualities of the supplies are classed as follows, interpreted in the light of the analyses and inspections:

Satisfactory	24
Fairly satisfactory	15
Unsatisfactory	36
Very unsatisfactory	6
Unsafe	16

In the "unsatisfactory" class are listed supplies which show rather questionable chemical analyses. Some of these supplies were considered by the inspector to be of satisfactory construction and location and it was recommended that additional samples for analysis be collected. Others of the "unsatisfactory" supplies were of poor construction or location. In the "very unsatisfactory" class are grouped supplies which were shown both by the chemical analyses and inspections to be poor but not definitely unsafe for use. The "unsafe" supplies were condemned both by chemical and bacteriological analyses as well as by the inspections.

Construction. The depth of 13 wells could not be ascertained but the remaining 62 are grouped as follows:

Less than 20 feet deep	26
20—29 feet deep	16
30—39 feet deep	8
40—49 feet deep	5
50—99 feet deep	5
100 feet deep or over	2

It is seen that the majority of the wells are shallow ones.

It is remarkable to note that 19 of the 75 wells were of the bucket-and-chain type and 8 were of the covered chain and windlass type. The bucket-and-chain well and the "old oaken bucket" are picturesque but highly insanitary. In the case of 15 of these 19 bucket-and-chain wells, water is drawn up by pulling the rope by hand. In the other 4, the bucket is drawn up by pulling the rope which is wound around a windlass. Both types usually necessitate handling of the bucket and in the 15 wells mentioned, the rope is also handled. The inspector found that at some schools, a stick, which ordinarily lies upon the ground, is used to sink the bucket below the surface of the water. Unclean hands may pollute wells of these types, even though the natural water supply is pure. The bucket is often set upon the ground and may thereby contaminate the water. The covered chain and windlass type also often requires handling when the chain slips off the sprockets and must be replaced in position.

The authorities of all schools securing water from such wells were notified that pumps should be provided to replace the dangerous chain and bucket.

No less than 56 wells and springs were found to be in need of tight curbing and covering to prevent the entrance of surface wash as well as to prevent waste water running back into the well, carrying any pollution it may encounter from the well covering. Thirty-two of the wells and springs were found by the inspector to be in good condition and apparently free from pollution because of faulty construction or location.

Location. One satisfactory aspect of the survey has been that the majority of the wells are fairly well located. Following are those of the 96 wells and springs which are near sources of pollution.

Number within 50 feet of cesspool	4
Number within 50 feet of privy	9
Number within 50 feet of drain or other possible sources of contamination	2
Total number within 50 feet of possible sources of contamination	15
Number between 50 and 100 feet of cesspool	8
Number between 50 and 100 feet of privy	22
Number between 50 and 100 feet of drain or other possible sources of contamination	6

In only three cases was there a slope in the ground toward the well from one of these possible sources of contamination.

Method of Furnishing Water. In 43 schools, covered tanks with faucets are used to supply drinking water. Where water is carried from the wells to the tanks in pails, there is, of course, some opportunity for contamination by handling. Bubbling fountains were found in 13 of the schools. Pupils in many of the schools visit the pump when they wish to obtain water for drinking.

The inspector found that some schools which took the trouble to furnish sanitary drinking cups allowed pupils to dip the cups in the water which was stored in open pails. Other schools furnished rusty dippers which were allowed to stand in open pails of water and were used to fill the drinking cups.

Summary. The most striking point brought out by this survey was the large number of wells and springs which were poorly constructed and of the bucket-and-chain type. The danger of contamination of water by unclean hands is particularly important in the case of these rural schools where, in general, no faculties are provided for washing hands after use of the toilet.

It is probable that many of the supplies will be immediately placed in good sanitary condition by the local school authorities. Comparatively few of the supplies had to be condemned because of improper location.

Laboratories

REPORT OF THE BUREAU OF LABORATORIES FOR MARCH, 1925

DIAGNOSTIC

	+	—	?	Total	
Typhoid					
Blood for Widal	3	29	1	33	
Blood cultures	....	2	....	2	
Feces	....	107	....	107	
Urine	....	74	1	75	
Paratyphoid A					
Blood for Widal	....	33	....	33	
Blood cultures	....	1	....	1	
Feces	....	107	....	107	
Urine	....	74	1	75	
Paratyphoid B					
Blood for Widal	....	33	....	33	
Blood cultures	1	....	....	1	
Feces	17	90	....	107	
Urine	15	60	....	75	
Diphtheria, Cultures					
Diagnosis	156	638	....	794	
Release	102	381	....	483	
Diphtheria, Carriers					
Diagnosis	176	860	....	1036	
Release	60	324	....	384	
Diphtheria Virulence	8	14	....	22	
Vincent's Angina	4	796	....	800	
Haemolytic Streptococci	28	770	....	798	
Tuberculosis					
Sputum preparations	28	120	....	148	
Urine	....	3	....	3	
Feces	....	1	....	1	
Syphilis	145	1403	150	1698	
Colloidal Gold Test for Spinal Fluids	8	15	....	23	
Gonorrhoea	19	105	....	124	
Malaria	1	2	....	3	
Rabies	1	1	....	2	
Feces					
Blood	1	....	....	1	
Worms	....	1	....	1	
Amoebic Dysentery	....	2	....	2	
Bacillary Dysentery	....	1	....	1	
Special specimens	3	4	....	7	
					6,980

CHEMICAL AND BACTERIOLOGICAL

Towns sending milk samples	25	
Milk samples tested	258	258
Milk samples below fat standard	8	
Towns sending water samples	81	
Water samples	281	281
Clinical thermometers certified	142	142
Total number of examinations made		7,661

NUTRITION AS A PART OF THE HEALTH PROGRAM

Nutrition has passed through various stages in its development, as scientific work from time to time has presented evidence which has pointed to the importance of hitherto unknown phases. Some of these phases have proven to be but side lines to the main issue, though they have seemed at times broad enough to embrace the whole of nutrition. Thus have we passed through the "nutritive ratio" stage, the "calorie" stage, the "complete proteins" stage, the "mineral element" stage and are now in the midst of the "vitamin" stage. Each stage has marked progress in the science of nutrition, and left such a firm imprint as to make it essential to the interpretation of nutrition as a whole.

With such a wealth of evidence for each of these phases in nutrition, one runs the risk of becoming a faddist along some special line unless one keeps in mind all factors which are known to play a part in nutrition. Thus one may be lost in the maze of the present vitamin stage and forget the importance of mineral elements in the diet, or the fact that calories must still keep pace with energy requirements. Knowledge of the vitamins in food has revolutionized the science of nutrition, and made necessary a reinterpretation of food needs. So illuminating is the evidence as presented by this new biological study of foods that one and all are convinced that vitamins play an important part in the prevention and cure of disease, and in maintaining normal health.

Keeping all these facts in mind the slogan for nutrition in the Connecticut State Department of Health is *"An All-Round Diet for All."* This fits into the state health plan for a healthy people—to promote well being by adopting all those factors that make for health. Controlling disease still claims the large share of attention and ever will. But there is a rapidly growing sentiment toward the promotion of health through right living. This universal sentiment is rounded up in the statement "Have a Yearly Health Examination." Nutrition has an important part to play in this program, for the health examination often reveals the fact that the daily diet was not well balanced, and sadly lacked such foods as milk and vegetables, particularly those of the green leafy variety, which McCollum has so aptly named the "protective foods." The value of the proper nourishment for the growing child has been demonstrated in the results which have been attained when undernourished children have

been brought into normal weight and physical well being through a larger use of milk, whole cereals and green vegetables. Again, it can be demonstrated that infants will be given a better start in life if the mother's diet is adequate in all respects and contains plenty of the bone and teeth building materials. Even the adult can change his diet plan if he will, and with benefit to himself. Note the casual man at one of the country fairs. He looked at the nutrition exhibit displayed there, and gave ready excuses for the failure of most foods (considered by the nutritionist as essential to health) to agree with him. Two months later at another fair in another part of the state he met the same nutritionist and the same food exhibit, but he made known to her the fact that he had been following her advice in regard to more milk and vegetables in his diet and he "felt like a new man."

Nutrition Articles. To promote health through adequate foods is part of the State health plan. The State Department of Health has ideal machinery for doing this. Its publications, weekly and monthly bulletins, as well as special leaflets, are put into the hands of local health officers in every town in the state. So this printed matter becomes a medium for carrying health information which these special agents may use to supplement their own health message. By this means health publications are used in enormous quantities throughout the state, reaching homes directly or through the local press which constantly reprint health articles. From time to time nutrition articles have appeared in these regular publications as well as in special communications, and it is the aim to use them even more frequently. By thus placing nutrition material into the hands of all health workers its aims for uniformity in the nutrition message which each one passes on to others.

Nutrition Service. One of the important groups to reach in this respect is the public health nurses. While they enter the home on the heels of sickness they win their way to the heart of the family through the service they render. So they, assisting the physician, are in a position to improve health conditions and can give advice on food matters in the homes as they relate to the pregnant mother, the preschool child, the school child, or the adult. This frequently means a rearrangement of the family budget and the substitution of health foods for those of doubtful value which so often claim a large share of the expenditures without yielding the proportionate return in health. To such a group the nutritionist can render valuable service by supplying

(a) correct information on the value of foods

(b) suggestions for a working food budget which will bring the proper return in health

(c) advice on nutrition problems that need interpretation in the light of special circumstances

Or to the school nurse, or public health nurse who does school health work, the nutritionist is of value in giving assistance in the formation of nutrition classes for underweight children, or in planning for a health course in which nutrition must take a leading part.

Nutrition also assumes importance in social service work, and the assistance of the nutritionist from the State Department of Health is freely given when requested by these field agents. This is of particular value to welfare organizations whose funds must be spent to the best advantage. To secure this instruction in food values is often necessary.

Recent developments in nutrition research have shown the relation between adequate foods and dentition, and the maintenance of strong healthy teeth. So the nutritionist has another group to serve in the oral hygienists who should be well informed in nutrition matters in order to make use of it in the special phase which relates to their work.

Talks, Illustrative Material. To reach the public at large there are talks, exhibits, posters and stereopticon slides. The nutritionist can often be of service to the field worker in this regard. Daily health work is exacting and many field workers welcome help in meeting local groups to discuss nutrition. In Connecticut many organizations, parent and teacher associations, mother's clubs, Y. W. C. A.'s and other local groups have asked for special talks on nutrition, or a series of talks in which nutrition can be more fully discussed.

Nutrition exhibits have proven of use in the state. These help to visualize food values and encourage the selection of foods which will meet health needs. Exhibits may take the form of a general dietary plan, or particular age group, or emphasize some special food such as vegetables, or milk, or fruit instead of candy, or give suggestions for a school lunch. Assistance in planning local food exhibits is often given.

Nutrition Standards. The value of nutrition work is recognized by visiting nurse associations by the addition of trained nutrition workers to their staffs. This is an ideal arrangement since nutrition problems can be handled more quickly and effectively with such a worker on the staff and nutrition thereby becomes an integral part of their health program. Such a step forward should be encouraged and the nutritionist of the State Department of Health is ready to lend her influence toward the attainment of this plan. As with other professions a high standard of training for nutrition workers should be maintained. Until such time as organizations can extend their staff to include such workers the nutritionist from the State Department of Health in so far as she is able to do so will be glad to meet requests for assistance.

Vital Statistics

MONTH OF FEBRUARY, 1925

Births

The number of births this month is the lowest ever reported for February during the last five years, the actual number being 2,093. The birth rate per 1,000 population is 16.4. Compared with February 1924, with a total of 2,484 births, this month is 391 less.

The average number of births for the month of February during the five year period 1920-1924 is 2,619, from which it is evident that this month differs by 526.

The unusually low figures displayed above show a return to the steady decline in births which was only temporarily checked during last year. A review of the number of births in the month of February during the past five years substantiates this statement.

1920	1921	1922	1923	1924	1925
2,963	2,743	2,558	2,349	2,484	2,093

In view of the decline noted above we do not expect many towns to show an increase in excess of 10 over the number of births reported last year at this time. In fact only one of the 169 towns in the state show such an increase. That one is New Britain, with an increase of 12 over last year's figures.

There were 78 stillbirths reported this month. The total of births and stillbirths is 2,171, of which the stillbirths constitute 3.5 per cent. Last year's total was 2,566, with stillbirths making up 4.6 per cent.

Deaths

Relief from this depressing birth report is found in the decline in the deaths this month as compared with February, 1924. The numbers being 1,488 for this month and 1,605 for last year, a decrease of 117. The death rates per 1,000 population are 11.7 and 12.8 for February, 1924 and 1925, respectively.

The average number of deaths during the month of February for the last five years is 1,889 which is 401 in excess of this month's figure.

A decrease in the number of deaths is not the usual experience at this time of year. January started off with an increase over last year and with February and March coming as the peak months for pneumonia deaths the outlook was not pleasant. Possibly the mild weather had something to do with the failure of this month to fulfill its usual prophecy.

The table displayed below shows principal causes of death and a comparison with last year's figures.

CAUSE OF DEATH	1925	1924	INCREASE	DECREASE
Diseases of the Heart	196	245	—	49
Epidemic encephalitis	2	—	2	—
Pneumonia, undefined	2	10	—	8
Typhoid Fever	2	2	—	—
Measles	—	11	—	11
Scarlet Fever	7	8	—	1
Whooping Cough	4	11	—	7
Diphtheria	17	23	—	6
Influenza	61	56	5	—
Tuberculosis, Pulmonary	85	92	—	7
Tuberculosis, Other Forms	10	20	—	10
Cancer	109	123	—	14
Meningitis—Cerebro-spinal	—	1	—	1
Poliomyelitis	1	1	—	—
Pneumonia, Lobar	104	95	9	—
Pneumonia, Broncho	79	103	—	24
Diarrhoea & Enteritis (Under 2)	15	11	4	—
Puerperal Diseases	10	15	—	5
Accident	60	66	—	6
Suicide	18	13	5	—
Homicide	4	4	—	—
All others	702	695	7	—
Total	1,488	1,605	32	149

From the above table we see that the decline this month was not due to any one cause alone, but to a general decrease all along the line.

For perhaps the first time we note decreases from diseases of the heart and cancer, of 49 and 17 respectively. As has been mentioned here before, these two diseases have shown a steady increase in the past few years until they both exceed tuberculosis as a primary cause of death. Last year both heart disease and cancer reached new high levels so that the decrease noted here is probably only temporary and is not indicative of any improvement in these conditions.

The infant mortality record this month of 188 deaths shows a decrease of 30 over last year with its 218. That this is due to the decrease in broncho pneumonia, which is the principal cause of death among infants is a reasonable surmise and the figures seem to bear it out.

Accidental deaths, with a total of 60 are 6 below last year with its 66. Analysis of this figure shows that only 7, or 11.6 per cent of these deaths were the result of automobile accidents. Last year 14 deaths or 21.2 per cent were automobile deaths.

Marriages

This seems to be a record month for reporting low figures, for not only do we find a decrease in births and deaths but also in marriages. The actual number reported this month was 766, 69 less than the 835 reported last February. The rate per 1,000 population is 6.0 as compared with 6.7 last year.

Births, Marriages and Deaths

February, 1925 Statistics	Population Est. as of July 1, 1925 Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Still Births	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,529,688	2093	78	766	1488	11.7	0.7	71.9	188	66	520
Ansonia	19,034	31	....	8	18	11.3	0.6	200.0	5	2	5
Branford	6,954	10	1	2	7	12.1	1.7	....	....	....	5
Bridgeport	166,644	238	9	92	122	8.8	0.9	65.9	18	3	37
Bristol	24,621	39	2	12	18	8.8	....	59.7	3	1	7
Danbury	21,931	42	1	5	22	12.0	1.6	69.8	3	....	5
Derby	12,500	35	2	5	9	8.6	....	55.5	2	....	3
East Hartford	13,616	9	....	3	7	6.2	....	....	....	1	4
Enfield	12,834	22	....	13	9	8.4	....	....	....	2	4
Fairfield	14,490	13	1	5	11	9.1	0.8	164.3	3	1	2
Glastonbury	6,042	9	....	2	2	3.9	....	....	....	....	2
Greenwich	25,207	29	1	43	25	11.9	0.9	25.2	1	1	10
Groton	10,764	9	....	2	7	7.8	....	....	....	....	4
Hamden	10.150	14	3	1	9	10.6	....	....	....	1	4
Hartford	160,199	274	10	92	199	14.9	0.5	86.1	29	12	53
Killingly	9,051	14	....	4	1	1.3	....	....	....	....	1
Manchester	21,018	29	1	5	17	9.7	0.6	131.2	5	1	8
Meriden	36,251	60	4	28	38	12.6	....	34.4	2	2	18
Middletown	22,649	20	....	7	40	21.1	1.1	60.1	3	2	16
Milford	13,473	....	....	....	....	....	....	....	....	....	....
Naugatuck	16,350	5	....	9	10	7.3	....	....	....	....	6
New Britain	67,896	127	5	33	59	10.4	0.5	138.4	19	1	11
New Haven	178,735	284	8	121	203	13.6	0.7	56.7	19	11	62
New London	29,003	37	5	23	31	12.8	0.8	15.1	1	....	13
Norwalk	29,596	43	1	12	39	15.8	1.2	121.2	7	2	17
Norwich	30,425	52	3	25	36	14.2	1.6	101.7	7	2	13
Plainfield	8,570	8	2	3	7	9.8	....	....	....	....	5
Plymouth	6,349	6	....	1	4	7.6	....	118.8	1	1	2
Putnam	8,990	19	1	4	8	10.7	....	....	....	....	5
Seymour	7,911	1	1	2	2	3.0	....	93.0	1	....	1
Shelton	11,134	12	....	3	19	20.5	....	70.1	1	....	2
Southington	9,529	9	....	1	10	12.6	2.5	129.7	2	3	....
Stafford	5,457	10	1	2	4	8.8	....	....	....	....	2
Stamford	46,218	72	7	32	44	11.4	0.3	71.6	7	4	11
Stonington	10,819	12	1	11	7	7.7	....	69.7	1	....	3
Stratford	16,085	14	....	5	12	9.0	....	103.8	2	1	4
Thompson	5,196	3	....	3	3	6.9	....	95.2	1	....	1
Torrington	24,492	31	1	12	14	6.9	0.9	90.9	4	....	2
Vernon	8.822	6	....	5	7	9.5	....	....	....	....	3
Wallingford	12.483	11	....	1	11	10.6	....	....	....	....	6
Waterbury	102,134	186	4	35	111	13.0	0.5	59.4	12	7	39
Watertown	7,192	3	....	1	1	1.7	....	....	....	....	1
West Hartford	11,146	13	....	6	11	11.8	1.1	188.4	3	....	4
West Haven	17,834	31	1	3	18	12.1	....	58.7	2	....	9
Westport	5,597	1	....	6	4	8.6	....	....	....	....	1
Winchester	9,129	13	....	3	15	19.7	....	107.1	2	1	5
Windham	14.368	25	....	8	13	10.9	....	69.3	2	....	3
Windsor	6,436	6	....	1	8	14.9	....	122.4	1	....	4
Towns under 5,000	209,346	156	2	66	216	12.4	0.6	75.4	19	4	97

for the Month of February, 1925

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
196	2	2	2	......	7	4	17	61	85	10	109	......	1	104	79	15	10	60	18	4	538	225
2	......	......	......	......	......	......	1	1	1	......	2	......	......	1	2	......	......	......	......	......	......	1
1	......	......	......	......	......	......	......	......	1	1	......	......	......	......	......	......	......	......	......	......	1	......
19	......	......	......	......	1	......	......	4	10	......	12	......	......	12	3	......	......	5	2	......	47	11
3	......	......	......	......	......	......	......	1	......	......	1	......	......	1	1	1	......	2	......	......	4	......
4	......	......	......	......	......	......	......	......	1	......	......	......	......	2	1	1	1	......	......	......	7	3
1	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1	......	1	......	......	......	5	4
3	......	......	......	......	......	......	......	2	......	......	......	......	......	1	1	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	1	......	......	1	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	1	1	......	......	......	......	2	2	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	1	2	......	2	......	......	1	2	......	......	2	1	......	10	3
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
3	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......
27	......	......	2	......	1	......	2	4	7	2	16	......	1	14	18	3	1	6	2	......	117	44
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	1	1	......	2	......	......	......	1	1	......	......	......	......	5	......
4	1	......	......	......	......	2	......	3	1	......	4	......	......	4	......	......	......	5	1	......	13	4
7	......	......	......	......	......	......	1	1	3	......	1	......	......	......	4	......	......	3	......	......	23	15
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	......	......	3	......	......	1	......	......	......	......	......	......	......	2
8	......	1	......	......	2	......	......	1	3	......	3	......	......	3	4	......	3	1	......	......	15	5
23	1	1	......	......	3	......	3	8	7	......	20	......	......	11	6	1	2	7	4	2	102	30
7	......	......	......	......	......	......	1	1	2	......	1	......	......	1	1	......	......	1	......	1	14	8
4	......	......	......	......	......	2	......	......	2	......	4	......	......	......	4	......	1	1	......	1	11	2
2	......	......	......	......	......	......	1	4	4	1	3	......	......	......	1	2	......	3	......	......	16	4
2	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	1	......
2	......	......	......	......	......	......	1	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	3	3
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	1	10	......	1	......	......	3	......	......	......	......	......	......	11	11
2	......	......	......	......	......	......	......	......	1	......	......	......	......	1	1	1	......	......	......	......	......	1
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	3	......
6	......	......	......	......	......	......	1	3	1	1	3	......	......	5	......	......	......	2	1	......	18	4
......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	2	......	......	1	2	......	......	2	1	......	......	1
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......
1	......	......	......	......	......	......	......	......	2	1	1	......	......	3	......	......	......	2	......	......	5	1
5	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	1	......	......	1	1	......	......	1	......	......	4	......
17	......	......	......	......	......	......	2	7	3	2	5	......	......	10	3	1	1	6	2	......	38	11
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	1	......	2	......	......	1	2	2	......	1	......	......	4	3
1	......	......	......	......	......	......	......	1	5	....	1	......	......	1	1	......	......	......	......	......	5	5
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	1	4
3	......	......	......	......	......	......	2	1	......	......	3	......	......	......	2	......	......	......	......	......	7	3
1	......	......	......	......	......	......	......	......	......	1	1	......	......	1	......	1	......	......	1	......	6	......
1	......	......	......	......	......	......	......	1	......	......	1	......	......	2	1	......	......	......	......	......	1	1
25	......	......	......	......	......	......	2	13	16	1	11	......	......	18	10	1	......	9	2	......	41	41

Towns not reporting,

February, 1925

BIRTHS	DEATHS	MARRIAGES
Andover	Barkhamsted	Andover
Barkhamsted	Cornwall	Barkhamsted
Colebrook	Franklin	Colebrook
Cornwall	Milford	Cornwall
East Hampton	Sharon	Farmington
Franklin		Franklin
Granby		Granby
Libson		Hartford
Milford		Milford
Montville		Old Lyme
Norfolk		Plainville
Plainville		Sharon
Sharon		Washington
Voluntown		Waterford

Six Year Study—February, 1920-1925

CONNECTICUT	1920	1921	1922	1923	1924	1925
BIRTHS	2963	2743	2558	2349	2484	2093
Birth Rate	25.5	23.2	21.2	19.1	19.8	16.4
DEATHS	2801	1455	1750	1837	1605	1488
Death Rate	24.1	12.3	14.5	14.9	12.8	11.7
MARRIAGES	932	745	796	715	835	766
Marriage Rate	8.0	6.3	6.6	5.8	6.7	6.0
COMMUNICABLE DIS.* DEATHS	1084	195	326	334	205	177
Per Cent to Total Deaths	38.7	13.4	18.6	18.2	12.8	11.9
DEATHS UNDER 1 YEAR	375	227	249	210	218	188
Rate per 1000 births	131.6	79.6	95.5	81.8	82.6	71.9

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF MARCH, 1925
(As compared with previous years)

A comparison of the daily morbidity reports received during the month of March, 1925 with the corresponding month for the years 1920, 1921, 1922, 1923 and 1924.

Disease	Average 1920-1924 for Mar.	Mean 1920-1924 for Mar.	1920	1921	1922	1923	1924	1925
Cerebrospinal Meningitis	9	9	11	6	14	9	7	3
Diphtheria	265	271	292	295	271	259	195	206
Encephalitis Epidemic	13	16	9	16	6	29	6	4
Measles	976	830	1313	830	776	1327	782	632
Poliomyelitis	1	2	2	2	1	1	2	......
Scarlet Fever	481	442	442	588	366	372	806	637
Smallpox	24	115	......	1	115	6	29	......
Typhoid Fever	10	11	6	14	11	9	12	12
Tuberculosis	155	144	192	174	142	144	125	124
Whooping Cough	250	253	244	316	145	253	187	292

A comparison of the morbidity on these diseases for the two preceding months, January and February with the March record is as follows:

	January	February	March
Cerebrospinal Meningitis	5	2	3
Diphtheria	246	202	206
Encephalitis Epidemic	6	4	4
Measles	231	259	632
Poliomyelitis	2	1	......
Scarlet Fever	814	725	637
Smallpox	......	......	......
Typhoid Fever	15	14	12
Tuberculosis (pulmonary)	121	103	124
Whooping Cough	306	197	292

Cases of Other Reportable Diseases
March, 1925

Chickenpox	245
Conjunctivitis Infectious	8
Dysentery (Bacillary	1
Encephalitis Epidemic	4
German Measles	216
Influenza	65
Malaria	1
Mumps	273
Paratyphoid Fever	5
Pneumonia (Broncho)	196
Septic Sore Throat	19
Trachoma	2
Trichinosis	1
Chancroid	1
Gonorrhoea	103
Syphilis	159
Total	1299

Cases of Occupational Diseases

Eczema	1
Potash Burns	1
Tuberculosis, from grinding cutlery	1
Total	3

Cases of Certain Reportable Diseases

March, 1925	Population Est. as of July 1, 1925	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Cerebrospinal Meningitis	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com Diseases
State Total	1,529,688	12	632	637	292	206	3	....	124	19	242	1299
NEW HAVEN CO.	**459,157**	**1**	**327**	**197**	**93**	**53**	**1**	....	**46**	**3**	**70**	**423**
New Haven	178,735	....	103	113	51	4	....	....	23	2	28	234
Waterbury	102,134	....	....	18	5	17	....	....	15	1	14	45
Meriden (city and town)	36,251	....	....	14	24	4	1	....	6	....	8	34
Ansonia	19,034	....	....	3	....	2	....	....	....	....	1	8
West Haven	17,834	1	3	14	....	2	....	....	....	....	5	13
Naugatuck	16,350	....	....	....	....	....	....	....	....	....	....	5
Wallingford (town and boro)	12,483	....	....	2	....	3	....	....	....	....	....	1
Milford	13,473	....	1	3	....	1	....	....	....	....	2	3
Derby	12,500	....	1	9	....	....	....	....	....	....	....	5
Hamden	10,150	....	10	12	12	4	....	....	2	....	5	34
Branford (town and boro)	6,954	....	198	....	1	16	....	....	....	....	2	....
Seymour	7,911	....	....	....	....	....	....	....	....	....	....	....
Towns under 5,000	25,348	....	11	9	....	....	....	....	....	....	5	41
FAIRFIELD CO.	**363,740**	**2**	**14**	**190**	**48**	**45**	**2**	....	**21**	**4**	**51**	**131**
Bridgeport	166,644	2	1	78	4	28	1	....	11	3	26	54
Stamford (city and town)	46,218	....	4	26	25	4	....	....	1	....	1	17
Norwalk	29,596	....	....	1	....	4	....	....	2	....	....	1
Danbury (city and town)	21,931	....	....	5	....	....	....	....	1	....	1	2
Greenwich (town and boro)	25,207	....	....	11	7	1	1	....	3	1	10	15
Stratford	16,085	....	....	7	3	3	....	....	....	....	5	3
Fairfield	14,490	....	....	6	....	....	....	....	1	....	....	6
Shelton	11,134	....	9	53	....	1	....	....	....	....	5	10
Westport	5,597	....	....	....	1	....	....	....	1	....	....	2
Towns under 5,000	26,838	....	....	3	8	4	....	....	1	....	3	21
HARTFORD CO.	**384,608**	**2**	**68**	**148**	**64**	**76**	....	....	**31**	**10**	**72**	**379**
Hartford	160,199	....	6	42	41	33	....	....	21	6	34	192
New Britain	67,896	....	56	53	....	16	....	....	4	3	11	33
Bristol (city and town)	24,621	1	1	12	7	5	....	....	1	....	5	8
Manchester	21,018	....	....	9	....	1	....	....	....	1	6	11
Enfield	12,834	1	....	....	6	....	....	....	....	....	1	5
East Hartford	13,616	....	....	4	....	4	....	....	....	....	4	10
Southington (town and boro)	9,529	....	1	4	....	7	....	....	....	....	1	12
West Hartford	11,146	....	1	7	8	2	....	....	1	....	1	33
Windsor	6,436	....	....	2	....	1	....	....	1	....	....	1
Glastonbury	6,042	....	....	2	....	....	....	....	....	....	....	8
Towns under 5,000	46,253	....	3	13	2	7	....	....	3	....	9	66
NEW LONDON CO.	**112,155**	**1**	**1**	**20**	**32**	**9**	....	....	**12**	**1**	**10**	**80**
Norwich (city and town)	30,425	....	....	6	1	4	....	....	5	1	1	6
New London	29,003	....	....	4	10	3	....	....	5	....	2	35
Stonington (town and boro)	10,819	....	1	3	....	....	....	....	....	....	....	3
Groton (town and boro)	10,764	....	....	6	21	....	....	....	....	....	3	10
Towns under 5,000	31,144	1	....	1	....	2	....	....	2	....	4	26
LITCHFIELD CO.	**79,851**	**3**	**2**	**19**	**19**	**5**	....	....	**3**	**1**	**14**	**56**
Torrington (town and boro)	24,492	....	....	....	....	....	....	....	....	....	....	1
Winchester (inc. Winsted)	9,129	....	....	....	....	2	....	....	....	....	....	1
Plymouth	6,349	2	....	5	....	2	....	....	1	1	2	8
Watertown	7,192	....	....	3	....	....	....	....	....	....	3	2
Towns under 5,000	32,689	1	2	11	19	1	....	....	2	....	9	44
WINDHAM CO.	**55,360**	....	....	**29**	**1**	**3**	....	....	**3**	....	**13**	**36**
Windham (inc. Willimantic)	14,368	....	....	14	1	1	....	....	1	....	5	4
Putnam (city and town)	8,990	....	....	5	....	1	....	....	....	....	....	1
Plainfield	8,570	....	....	2	....	1	....	....	....	....	2	22
Killingly (inc. Danielson)	9,051	....	....	1	....	....	....	....	1	....	3	7
Thompson	5,196	....	....	....	....	....	....	....	....	....	....	1
Towns under 5,000	9,185	....	....	7	....	....	....	....	1	....	3	1
MIDDLESEX CO.	**47,152**	**3**	**220**	**24**	**32**	**10**	....	....	**7**	....	**8**	**180**
Middletown (city and town)	22,649	2	49	8	8	7	....	....	....	....	1	53
Middletown State Hospital		....	....	....	....	....	....	....	6	....	....	1
Towns under 5,000	24,503	1	171	16	24	3	....	....	1	....	7	126
TOLLAND CO.	**27,665**	....	....	**10**	**3**	**5**	....	....	**1**	....	**4**	**14**
Vernon (inc. Rockville)	8,822	....	....	1	....	4	....	....	....	....	....	1
Stafford (town and boro)	5,457	....	....	2	1	....	....	....	....	....	1	2
Towns under 5,000	13,386	....	....	7	2	1	....	....	1	....	3	11

(For cases of other reportable diseases, see page 79)

CONNECTICUT'S HEALTH

Everybody's Problem

SUPPLEMENT TO MONTHLY HEALTH BULLETIN
APRIL, 1925; VOL. 39, No. 4.

STATE OF CONNECTICUT · DEPARTMENT OF HEALTH

QUI TRANSTULIT SUSTINET

Form V.D. 30

STATE DEPARTMENT OF HEALTH

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8 WASHINGTON STREET
HARTFORD

EVERYBODY'S PROBLEM

A Warning by

HERMAN N. BUNDESEN, M. D.

Commissioner of Health, Chicago

IN TIMES of impending epidemic it becomes the duty of the Health Department of any city to warn the citizens of the danger and to advise them as to the measures necessary to control the disease.

This is a warning, for at the present time, despite vigorous measures of repression, a contagious disease exists and the records show that already many persons have been or are infected. It has attacked practically half the boys under 30 years of age, a large number of young women, and many little babies. In the hospitals there are many cases, but the facts have been handled with such suppression of publicity that little has leaked out to arouse the people.

I believe it is time that the public should be informed. And I hope that each householder who receives this official warning will coöperate whole-heartedly with me in order to protect his own family.

A SERIOUS PROBLEM

THERE are cases in your own block or perhaps in your own apartment building, or boarding house. At your club, at your restaurant, at your office there are people who come from homes touched by disease.


"INNOCENCE"

Unless your coöperation can be secured, there will be more victims of this contagion within a year than were numbered in the United States casualty list during the entire war in France.

That is how serious our problem is, yours and mine, and that is why I am discarding the policy of silence and putting the facts of the situation before every man and woman in the community. If you have a baby, a wife you love, a son leaving home for college, a daughter of high school age just stepping into womanhood, or, like myself, a healthy happy family, I know that you will be willing to coöperate with the Health Department to protect them, even though it requires an expenditure of time, thought and vigilance on your part, and though it may cause you to lose a friend, or offend a neighbor.

PROTECT YOUR HOME

THE TOLL OF WAR AND DISEASE

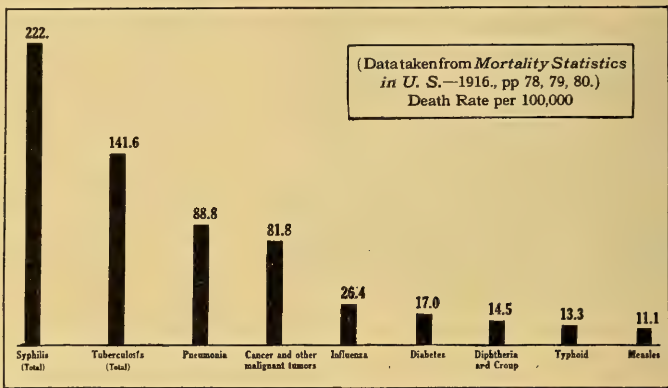
WE HAVE fire insurance and fire extinguishers to safeguard us against loss from fire. We have cyclone cellars and tornado insurance to protect us from loss from storm. We have police to safeguard us from the burglar. And we use them all when it is necessary. But we are not availing ourselves of the agencies at hand for the prevention and cure of social diseases. They are more destructive than all the devilish equipment of the recent world war and continue on their stealthy way, destroying the innocent as ruthlessly as the guilty.

Lurking behind the protecting screen of ignorance, fear, timidity and false modesty, these assassins *play no favorites*. The mother in her home, the innocent little child, the *untaught youth* are all easy prey.

THE ASSASSIN THAT LURKS IN THE DARK

THE GREAT DESTROYER

Syphilis is the Greatest Killing Disease



The death rate per 100,000 population in the registration area of the United States in 1916 was 1,389.9. For syphilis alone it was 9.6. When corrected in accordance with the following table, the death rate from this disease was found to be far in excess of that from any other disease, syphilis being the cause of practically two out of every thirteen deaths in the United States today.

It is also worthy of comment that the death rate for syphilis has been practically stationary for the years 1911—1916 inclusive, the rates being 214, 218, 216, 217, 219, 222, per 100,000 population.

Syphilis is a Preventable Disease

PROPORTION OF DEATHS, UNDER OTHER CLASSIFICATIONS, THAT SHOULD BE ASCRIBED TO SYPHILIS

Disease	*Per Cent*	*Disease*	*Per Cent*
Locomotor ataxia	**100**	**Cerebral hemorrhage, apoplexy**	**40**
General paralysis of the insane	**100**	**Softening of the brain**	**40**
Congenital debility, icterus and sclerema	**100**	**Bright's disease**	**20**
Organic diseases of the heart	**50**	**Epilepsy**	**10**
Angina pectoris	**50**	**Encephalitis**	**10**
Diseases of the arteries, atheroma, aneurism, etc.	**40**	**Meningitis, (total)**	**10**

Based upon the following authorities:

Sir William Osler, in *Syphilis and Public Health,* by Lt. Col. E. B. Vedder, M. C., U. S. A. page 18

Dr. Leredde, in *Syphilis and Public Health,* page 20

Dr. Douglas Symmers, (Director of Laboratories, Pathological Department, Bellevue Hospital) in letter to Benjamin Malzberg, of the United States Interdepartmental Social Hygiene Board, May 16, 1919

Commonwealth of Australia (1916): *Report on Venereal Diseases,* page 8

(S-1) Prepared by The American Social Hygiene Association, New York, 1919

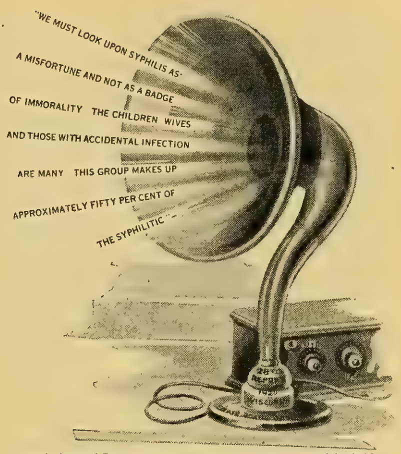
THE menace referred to, which has been flourishing behind a curtain of silence, is the scourge of venereal diseases. There is no hesitancy in openly discussing diphtheria, scarlet fever, or other contagious diseases. But, unfortunately, mere mention of this destroyer in society or in the home is regarded as an offense against decency, and consequently knowledge of the impending danger is often withheld. Yet, there is no affliction which is so widespread or so destructive.

This group of diseases is so prevalent, that if it were smallpox, people would be too alarmed to leave their homes, unless properly protected. Yet neither smallpox nor any other common ill is as deadly as those under discussion.

We dread tuberculosis, heart disease and pneumonia. Yet syphilis, directly or indirectly, destroys more human lives each year than any of these.

YOUR SON OR DAUGHTER MAY BE EXPOSED

THE pitiable feature of these diseases is that they attack not only the guilty, *but the innocent.* They bring misery into the home, and are often responsible for sterility, insanity, paralysis and other disasters.



28th Annual Report Wisconsin State Board of Health, 1920.

BROADCASTING THAT ALL WHO HEAR MAY KNOW.

What can you do about it? It rests with you. This is not sensational broadcasting of exaggeration. It is plain fact, told to you as simply as possible, with no thought in mind but the welfare of your family. It is unfortunately true that *your son and your daughter may be exposed to a contagious disease.*

THE HAPPINESS OF INNOCENT YOUTH

ARE THEY PROPERLY INSTRUCTED?

FOREWARNED IS FOREARMED

WOULD you tell them so if its name were small-pox? Of course you would! Then tell them, though its name be social disease, for prudery which withholds information from the young has been largely responsible for its spread.

Do you believe that your son just entering college, even though the urge of life is beginning to be felt within him, would *knowingly* expose himself to a disease which may scar him, sterilize him, or endanger his sanity?

LEAVING FOR COLLEGE
BUT IS HE READY TO MEET LIFE'S PROBLEM?

THE CHANCES ONE TAKES

TEN OF YOUR SON'S COMPANIONS OF WHOM FIVE
ARE OR HAVE BEEN INFECTED

HE MAY, of course, if he does not fully realize the consequences. Many do! Your son, my son, our neighbor's son, for it is true that 50 per cent. of all our young men become infected. There are records to substantiate this. Fifty per cent. is "*five out of ten*" of the boys your son knows.

But if your son has been told fully and clearly the consequences which follow misconduct, told *not just occasionally but again and again*, he will think a long while before taking a chance. *Show him the figures!* They are the best argument. They are no idle theory, no fad of the Health Commissioner. They are the cold, matter-of-fact, official records of the various cities of the United States furnished by health officers.

> "Fully one-eighth of all human diseases and suffering comes from this source; 60 per cent of young men become infected with venereal diseases. Twenty per cent before the twenty-second year; 50 per cent before the twenty-fifth year and 80 per cent before the thirtieth year."
>
> Col. E. B. Veedar, U.S. Army "Public Health," page 46.
>
> "NEWS"

HOW ABOUT YOUR SON?

1,000,000 young men reach the age of 21 each year. Before 30 at least 500,000 are or have been infected.

WE KNOW what the population of the United States is. The census indicates how many adults there are, how many children and how many boys under thirty.

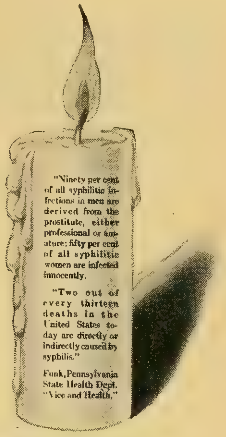
Health department records show how many of these boys have been affected. That is one of the ways to arrive at the figures which show that "five out of every ten boys" are or have been infected with venereal disease.

CHARACTER IS THE BRIDGE OF SAFETY

"At least 800,000 people, or more than one-fifth of the adult population of New York City, have, or have had, some venereal disease.
Rosenau, Harvard University, "Preventive Medicine and Hygiene," 1921, p. 55.

KNOW YOUR CHILD'S COMPANIONS

GET acquainted with your son's associates. If you have discussed this subject fully with him, he will probably keep away from the professional fallen woman; but don't forget that the loose girl associate who is highly sexed, emotional, undisciplined, a reader of trashy literature and a seeker of thrills, is almost as dangerous to your son as the "woman of sin." Because of her nature and her lack of training she permits liberties, and soon the inevitable happens. For her it's simply one boy after another, and finally there is infection received and given.



SOME ILLUMINATING FIGURES

Let your boy understand this. Speak about her before she appears on the horizon, and just quote that "five boys out of ten" fact to him. Make him realize that one of the five may have the same liberties the girl might grant to him, and, if so, she will become a disease carrier as surely as the scarlet woman.

The lesson he needs brought home to him, is that out of every ten boys five could infect a girl, and that *it only takes one girl to infect him.*

BE A CHUM TO YOUR BOY AND HIS FRIENDS

SAFEGUARD YOUR DAUGHTER

PERHAPS you are one of those who think it perfectly legitimate for boys to sow a crop of wild oats before settling down. Then, let us consider your daughter, for few persons condone wild oats for woman!

When your daughter marries, she will select one of those ten boys, five of whom are or have been infected. Does that affect your peace of mind? It should, in view of existing facts.

YOUR DAUGHTER
THE HOPE
OF THE FUTURE

Your daughter is more dependent than your son, more in need of protection. Her tender little ways, her endearing love for you, her bubbling happiness, her active little body and developing mind, are each precious to you. You jealously guard her from every evil influence. Mother sees that she puts on rubbers when it is damp, anxiously wraps her up in cold weather, hovers over her bed at night when the little cheeks are flushed and feverish, nurses her devotedly when real sickness comes, thinking no sacrifice too great. There is no protection you do not throw around her—*so you think. All your pride and love and ambition are centered in her.* You plan that she shall have every advantage, that she shall realize every dream of happiness and success. She is the bank in which you have placed all your treasures. *She represents the biggest investment you have ever made.*

YOUR MOST PRECIOUS POSSESSION

HOPES, PLANS, AMBITIONS, ALL ARE DESTROYED BY IGNORANCE

YOU believe in watching your investments? You believe in banks being safeguarded, or are you willing that the bolts be left unfastened and the bars down with your savings in the vault?

Your daughter represents the greatest total of savings you have ever been able to scrape together — she represents not only money but hopes, ambitions, every pang of your heart, every throb of your pulse.

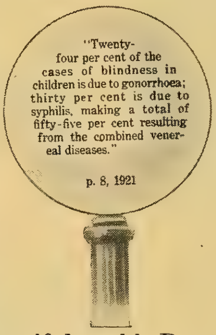
And yet, some day, perhaps very soon, she will marry one of those ten boys, five of whom are or have been infected and may still be capable of transmitting the disease. If he is one of the five still uncured, you may file your bankruptcy papers. She will contract the disease, develop illness, go through a siege of suffering and possibly undergo an operation.

THE PRICE OF IGNORANCE

THE NEEDLESS SACRIFICE

CONSOLING WORDS DO NOT MEND A BROKEN HEART

YOUR daughter is the hope of the future. Disease in her husband may mean the loss of the long-desired baby about whom have clustered all her dreams—perhaps before its first little birthday candle is lighted.



There may be a little blind baby as a result of wild oats. Is there anything more pitiful? We watch its eyes, waiting for it to notice what is happening around it in this beautiful world. But it lies unmoved and unmoving. The sun shines radiantly on, but its little eyelids do not quiver in the light. It grows in stature, it grows in intelligence, it grows in the scope of its activities. It can play now in the garden, play on the beach, if mother is with it to guide its footsteps, to prevent it from stumbling, to gather the flowers it smells and gropes for but cannot see, to place the dropped toy in the small fingers that reach helplessly for it. The blind baby is always a ward, to be helpless and cared for throughout life, and often a public charge of the taxpayer.

AN INNOCENT VICTIM

WILD OATS

THE CRADLE THAT WILL ALWAYS BE EMPTY

W*ILD OATS for our sons mean wild oats for other people's sons, and our daughters must share the reaping of the harvest.*

For me, I invest equally in my sons and my daughters, and my heart would be wrung just as deeply if my hopes and ambitions for one of my sons should be frustrated by his physical impairment as by the unhappiness or suffering of one of my daughters. Do not shut your eyes to this spectre! *There can't be any wild oats if these diseases are to be checked.*

THE CHILDLESS HOME
THE WILD OATS OF YESTERDAY ARE WATERED BY THE TEARS OF TODAY

MAN'S GREATEST WORK

A PARENT'S MOST IMPORTANT BUSINESS
BEING A PAL WITH HIS CHILDREN

HOW can you protect your children from this menace?

Pal with your children! Play with them! Give them plain, straight talks, full of high ideals, and sound standards of right and wrong.

You have probably tried to teach them these ideals from infancy, but now, in addition, teach them the doctrine of self-preservation.

Teach your boy what it means to him to sow wild oats even once! Just once may be sufficient to raise a crop which must be harvested in anguish. If he is old enough, give him facts and figures and keep them before him. They are argument enough.

And above all, set your children the proper example by yourself practicing the things you preach.

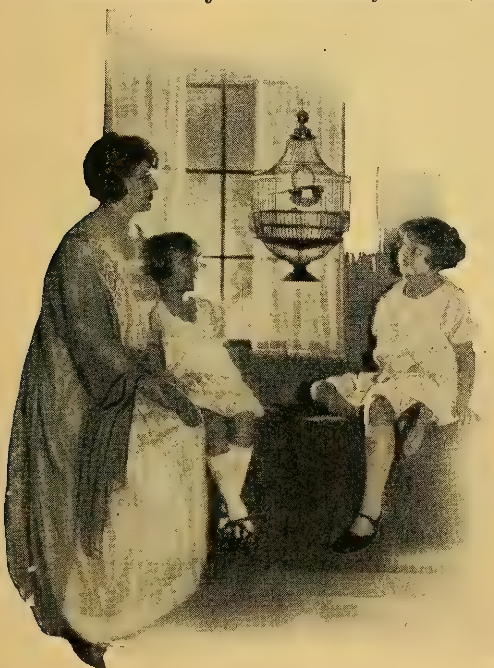
CONFIDENCE BUILT BY COMRADESHIP

YOU SHOULD TELL THEM THE FACTS

IF YOUR boy is still at the knee pants stage, or not yet out of rompers, you can do even better by teaching him such facts of life as will tend to prevent him from acquiring wrong thoughts about sex matters, satisfy his curiosity by truthfully *answering questions when they are asked*, and give him a sane, wholesome, realistic attitude toward sex relations.

YOUR SON,
KEEP HIS MIND AS CLEAN AS HIS BODY

When he asks you how a baby is born, tell him of the bird in its cage, and the story of its nest and the eggs from which the little birds are to come, and then tell him the story of that other nest his own mother carries, and the little egg from which he came. He accepts these facts so told without any unhealthy curiosity, almost casually, you will find. Children respond to any sane wholesome story of the facts of life, and right knowledge is one of their best safeguards when they leave their mother's knee. So provide it instead of letting some ill-taught youngster be the teacher!



A LESSON IN LIFE'S WONDERS

FORESHADOWING THE FUTURE

THE LITTLE MOTHER

EVERY little girl is a potential mother. As soon as she is old enough to hold a toy she wants a doll. She loves her doll, and would rather play "mother" than any other game.

It is a simple matter to teach her when she is of the age to understand, that the kind of a baby she is to have depends upon the kind of a mother she is and the kind of a father she chooses for it, and you neglect a duty if later you do not tell her also what will be the reaping of the harvest of wild oats.

REFLECTING FACTS

When your daughter knows that without any wrong doing on her part she may become a suffering invalid, that her children may be blind or defective in other ways, she will be less hasty in giving her love, and will take every precaution to see that the man she marries is as fit and clean physically as she.

CAN THIS APPLY TO THE MAN I LOVE?

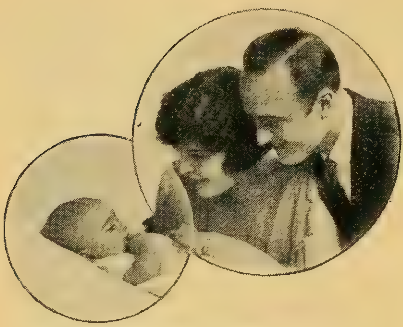
WHAT FUTURE LIES BEFORE THEM?

THE foundation of society is marriage. While nature is preparing youth for marriage, we should teach young men and women to look forward to it as a sacred duty to themselves and to society. Normal life demands marriage and there is no substitute for it. Our children should be taught to regard marriage in a serious light and our youth should know that abuses of the sex instinct and the acquiring of disease often lead to unhappiness in married life, to sickness or death.

THE GREATEST MOMENT OF A WOMAN'S LIFE

They should also be taught that morally it is assault with intent to kill for a man knowingly to infect a woman or a woman knowingly to infect a man. Some day let us hope that a public made up of the men and women who know the value of clean living may make it an offense punishable by law.

THE VITAL CIRCLE



PROTECT YOUR INHERITANCE
HE WILL THANK YOU WHEN HE IS GROWN

EACH must be made to realize that we are a link in a chain of human beings that will reach as far forward into the future as it does back into the past, so that they may avoid taking the one false step that may damage and blight the lives of those to come.

Every young man and woman should know that by contracting venereal disease their descendants may be affected, or sterility may result so that they cannot even have children. It is only by leading a clean life that the body can be kept healthy and fit to reproduce. They should regard the spark of life as a most sacred trust to be passed on to their descendants as a vigorous and untainted heritage.

THE SPARK OF LIFE
MAN'S MOST HOLY TRUST

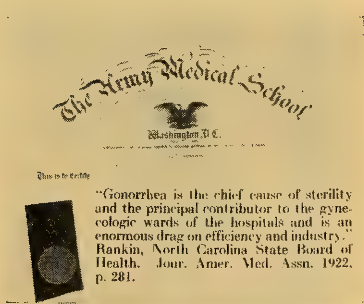
WHAT IS BACK OF HIM?

WE INVESTIGATE the social standing and the financial responsibility of the man who asks for our daughter as his wife. Let us realize however that a notice in the Social Register, a good rating in Dunn or Bradstreet, a university diploma, a scientific degree, in themselves, afford no protection against venereal disease. How many of us take measures to see whether he is one of the "*five out of ten*" boys free from disease?

"Gonorrhea is a disease of the very first rank. It costs the country, annually, thousands of lives, 30% to 40% of all congenital blindness, chronic pelvic mischief in women and the unhappiness of sterile marriages." Sir. William Osler.

A NEGLECTED CONVERSATION

BRADSTREET'S IS NOT AN ASSURANCE OF GOOD HEALTH



A DIPLOMA IN ITSELF IS NO PROTECTION TO POSTERITY

A SINGLE MORAL STANDARD

IS HE WORTHY OF YOUR DAUGHTER?

HOW can you find out? When a man asks you for your daughter in marriage, see that he offers a medical certificate from your family doctor.

If he does this it may be assumed that he is a man of principle and has respect for fair play. If a young man is properly taught and shown the value of a square deal, *he will adopt for his own life the same standard that he expects of the woman he is some day to marry.*

The STATE of GOOD HEALTH

To Whom it May Concern

This Certifies, that John Doright has been examined by me and found free from communicable disease, and is in my judgment physically and mentally fit to marry

In Witness Whereof, the undersigned duly authorized physician of the State of Health U.S.A. has subscribed his name hereto on this sixteenth day of October A.D. 1924.

Good Counsel M.D.

DEMAND THIS GUARANTEE

WHERE SOME OF OUR TAXES GO

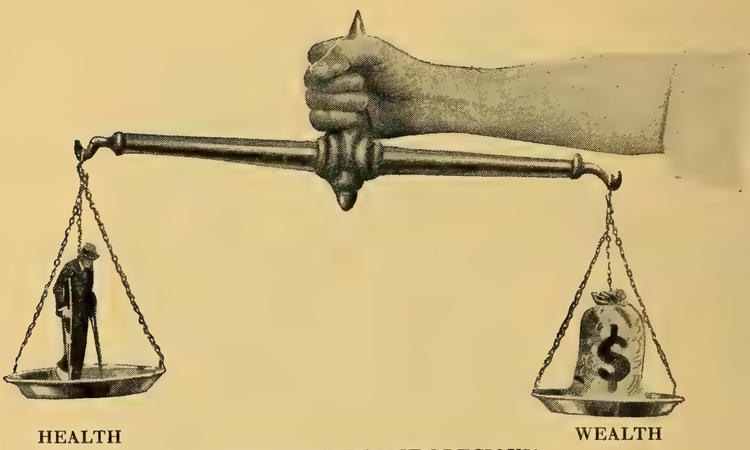
WHATEVER agencies do harm to the child or the family are destructive to the welfare of the State. Whenever the children of the State are blinded, crippled, paralyzed, and reduced to imbecility and incapacity, the State is robbed of citizens who should have been self-supporting and useful, and in addition is compelled to build and maintain institutions to take care of these human derelicts. Every institution for the feebleminded, the blind, the insane and the epileptic, is a monument, in some degree, to our carelessness and wastefulness of human life, to our indifference and to our ignorance of the vast ramifications of the great venereal disease problem.

THE LIGHT THAT FAILED!

DECREASE YOUR BUSINESS COSTS

THERE is another aspect to this question which is of vital importance to the business man, the factory owner, the banker—in fact to every employer, to every worker, and to the public which is served by these men and women.

The syphilitic, made clumsy and careless through the ravages of the disease, is particularly subject to accident in the performance of his work. Accidents may injure the employe himself or his fellow workers as well. Such an employe, through the operation of the Workmen's Compensation Law, is often placed upon the pension rolls of the company for an indefinite period.

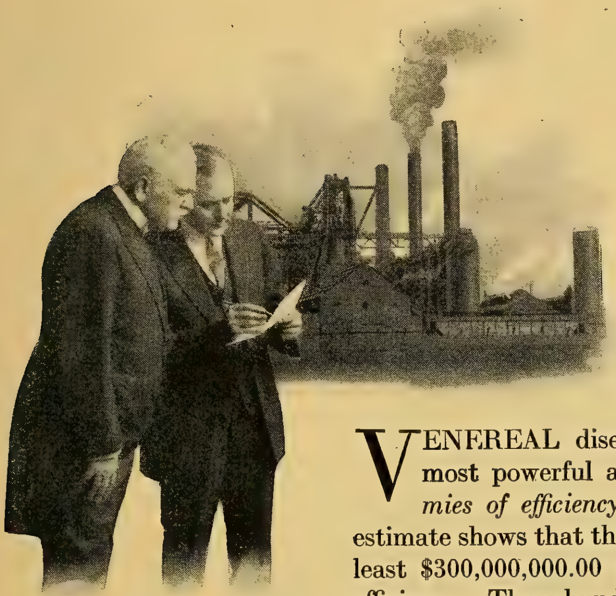


WHICH IS THE MOST PRECIOUS?

What employer would knowingly add this unnecessary expense to the cost of running his business? Yet many an employer does, through lack of knowledge as to how he may avoid such contingencies.

The workers also suffer from the effects of disease through reduced efficiency and loss of energy so that they frequently lose their positions or fail to earn as much as they otherwise would.

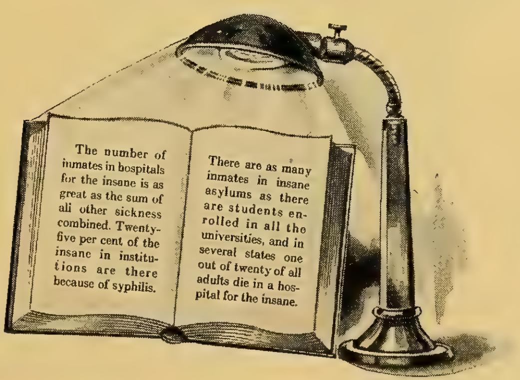
ENEMIES OF EFFICIENCY



STOP THE RAVAGES ON
HEALTH AND BUSINESS

VENEREAL diseases are in truth most powerful and persistent *enemies of efficiency*. A conservative estimate shows that these diseases cost at least $300,000,000.00 a year in reduced efficiency. Three hundred million dollars a year.

And until the public and the vast army of employers realize how infected persons endanger the public interest, safety and health and do their utmost in helping to prevent these diseases, this huge total of wasted resources will appear between the lines of every yearly budget.



DO NOT SIT IDLY BY

IN THE preceding pages the results of the venereal plague have been pointed out. There would be no use in exposing them as I am now doing were there not hope for the future. Indeed, *there is hope!* These diseases can be *cured.* With sufficient effort they *can practically be banished* from the earth, or at least reduced to a condition of rarity.

WORSE THAN A QUITTER IS THE FELLOW WHO DOESN'T BEGIN

The tragedy of the situation lies in the fact that with effective weapons long forged and at hand we meekly submit year after year to the inroads of this, our greatest racial enemy. *The cause* of the malady, *the means of its prevention* and the methods of *its cure* are well known. To organize and wipe out this evil, utilizing the known facts and remedies, there is need of the same broad, far-seeing, deep-thinking intelligence which is applied every day to the problems of big business.

EXPOSE THE FACTS

THE CAUSE, PREVENTION AND CURE ARE KNOWN

WHEN the people of the United States realize the prevalence of these diseases among all classes of society; when they appreciate the extent of the social damage they cause; when they understand that tens of thousands of innocent women and children are made martyrs every year, and that all this suffering is unnecessary and avoidable, then these diseases are doomed.

A campaign of education will break down the conspiracy of silence sponsored by prudery and the public will most surely respond as soon as the facts are known.

The measures which can be relied upon to check the spread of this malady, of which there are 2,500,000 cases treated yearly in the United States, and for which your active cooperation is urged, are:

Expose the facts to the cleansing light of universal knowledge, as they maintain themselves almost entirely on public ignorance.

LET THERE BE LIGHT

THE LIGHT OF EDUCATION ROUTS THE ENEMIES THAT LURK IN DARKNESS AND BRING SECURITY AGAINST DANGER

A TRUTHFUL ANSWER

TEACH the fundamental facts of life to very young children, in such a manner that unhealthy curiosity and morbid imaginings are prevented.

Give special instruction to your children as they enter their teens, in the nature and the widespread existence of venereal diseases, and their consequences. This part of their training should be supplemental, of course, to the moral teaching of earlier years upon which character is built.

That authority and eminent dignitary, the late Cardinal Gibbons, who exerted such a deep influence upon our American manhood, courageously expressed himself regarding venereal diseases, in the Journal of Social Hygiene, April, 1921, as follows:

"You know as a physician that these diseases exist. I know as a priest that they exist. It is your duty to combat them in your way as a physician, as it is my duty to combat them in my way as a priest. They are enemies—and you cannot fight an enemy to advantage in the dark."

"At what age, your eminence, should such instruction begin?" he was asked.

"At the age of puberty," answered Cardinal Gibbons without hesitation. "At that age the sex instinct begins to manifest itself; so at that age the proper instruction should be given, and instruction leading up to this point should begin before that."

WHOLESOME FRIENDSHIP

GUIDE YOUR CHILD'S THOUGHTS

TELL THEM YOURSELF

CULTIVATE comradeship with your children that you may know the character of their associates. Just because your neighbor's children may be more in need of the necessary information, it does not follow that your own youngsters are secure. Parents have no choice as to whether children will learn about venereal diseases. The question for you to decide is *whether they are to obtain the information truthfully from you* or in a distorted and suggestive form from someone else or from trashy literature.

GOOD THOUGHTS BEAR GOOD FRUIT

WHAT IS YOUR CHILD READING? READING BRINGS THINKING AND WHAT THEY THINK EVENTUALLY THEY WILL BE

Study the nature of your children's interests and secure and retain their confidence and affection to the end that you may better hold and control them and keep them nearer to your heart.

DIRECTING ENERGY

WHOLESOME ACTIVITY
STIMULATES MIND AND BODY

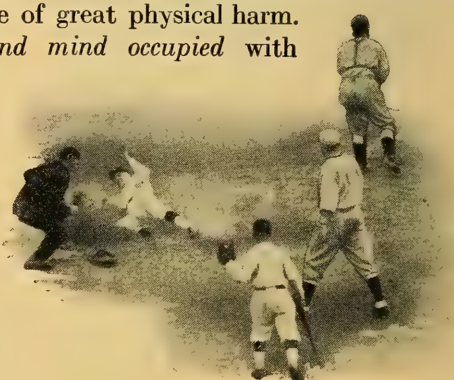
KEEP your child occupied physically and mentally. Idleness brings mischief.

The two greatest urges of the human race are hunger and sex.

The sex impulse, like other great natural forces, may be an agent of destruction or a source of great blessing. For example, fire when properly controlled is a great boon to man. It cooks his food and keeps him warm. It makes machinery perform gigantic tasks and brings comfort and well-being to the human race. But misdirected or uncontrolled fire becomes conflagration and causes ruin and destruction.

SELF RELIANCE AND CHARACTER
ARE DEVELOPED BY PLAY

So it is with sex energy — directed into proper channels, it is a source of better and fuller living and strengthens the foundation of society. But, the flame of sex gone wrong, destroys virtue and morality and is productive of great physical harm. *So keep your child's body and mind occupied* with other things, that the sex instinct may not grow out of control. Encourage participation in healthful, competitive sports such as baseball, football, tennis, skating, swimming, gymnastics, boxing and any other form of exercise.



CLEAN SPORTS PROMOTE FAIR PLAY

OUR ULTIMATE GOAL

HAVE your son join one of the organizations for boys that do so much to supplement the training in the home and school and that serve as a healthy outlet for their super-abundant energies.

This unquestionably has a marked influence on our American manhood for fair play and high moral standard.

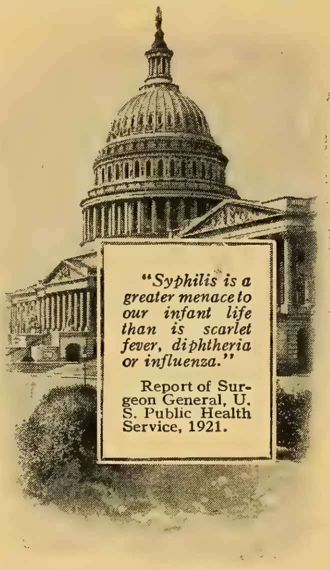
For the girl there are similar organizations with the same purpose in view—*the moulding of red-blooded Americans.*

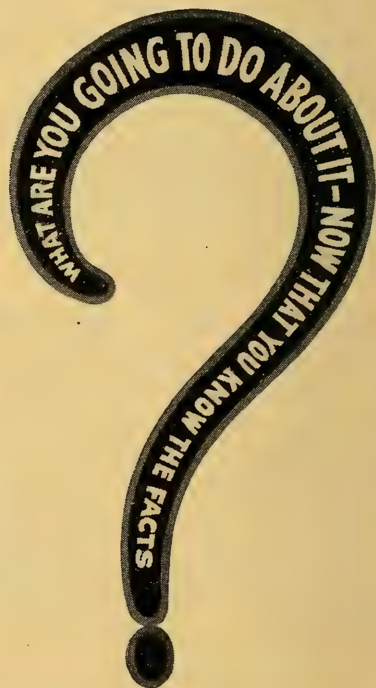
Take your child to church. The greatest uplifting influence in civilized life is the church and cold and cheerless indeed is the churchless community. Even the one who does not go to church feels the effect of its influence and receives the benefits that come from its presence. Its good offices reach out in countless ways and directions embracing the community in an atmosphere of unselfishness and morality.

We must develop in our children a love of morality for its own sake rather than righteousness based upon fear of the consequences of immorality.

Mere laws cannot create morality; force does not create righteousness. These qualities come from within, from the soul and from the enlightened mind.

THE FOUNDATION OF RIGHTEOUSNESS





The child is like clay in the hands of the human potter. What he will be depends largely upon the wisdom and skill of those who mould him by their example.

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 39 May, 1925 No. 5

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STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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CONNECTICUT
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Vol. 39 May, 1925 No. 5

Issued Monthly by the
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IVY POISONING

By G. Albert Hill, Ph. D.,

Professor of Chemistry, Wesleyan University.

Perfection is rarely attained, hence in nearly everything we find good and bad intermingled. Our enjoyment of the beauty and attractiveness of Nature's abounding plant life is marred by the presence of some troublesome, not to say dangerous, plants. Poison ivy, sometimes called poison oak, is one of the commonest and worst of these. It grows in quantities in our fields, climbs trees, especially somewhat isolated ones, and bedecks the stone walls and fences along our roadsides with its insidiously treacherous foliage. Fortunately this plant is easily recognized by the characteristic leaf, which is made up of three leaflets, and somewhat resembles the the harmless so-called wood-bine, or Virginia creeper, a five-fingered leafed vine, frequently used for its decorative effect.

Practically all the visible parts, and the roots of the ivy are poisonous. The active principle is carried in resin canals which exude the poison whenever the canal wall is fractured. The canals are especially abundant in the leaves, but are found in the bark, stems, roots, flowers, and green berries. It is a notable fact that the pollen is not toxic, that is it does not contain the poisonous substance. The ripe berries, too, are relatively harmless and are frequently eaten by birds. These reject the seeds, from the mouth, in a few minutes and thus the spread of this attractive, but undesirable plant is aided. Due to the wide distibution of the resin canals in the ivy plant, the latter is always dangerous, but especially so whenever the canal walls are unusually liable to be broken, as for example when the young leaves are distended by the flowing sap as it mounts upward in the Spring.

In order to acquire a case of ivy poisoning an individual must come in contact with the oily material found in the resin canals. In view of the rather widespread acceptance of certain erroneous views regarding the methods of becoming poisoned by ivy it will be well to consider this topic in some detail. It has been shown by a number of investigators that the poisonous substance is a non-volatile oil. Thus it may be dogmatically stated that one cannot be poisoned by ivy by simply walking in the vicinity of the plant, and the apparently recurrent cases of poisoning are not due to mere proximity to this member of the Rhus plant group. Independent investigators have mixed the leaves with water, distilled the mixture, and applied the condensate to the skin of a person known to be susceptible to the poison. Uniformly the report has been made that no evidence of poisoning appeared. Furthermore, a leaf, having been bruised so that the poison was exuding from it, was fastened to a concave piece of glass which was secured to the body of a sensitive individual in such a manner that though the leaf did not touch the body it was at all times within half an inch of the skin. In this instance also the subject, known to be liable to ivy poisoning, showed no symptoms of the affliction. Contact with the contents of the resin canals is an essential step in becoming poisoned. It is well to note that this does not mean that actual contact with the plant is necessary. The non-volatile oily plant poison may, by observed or unobserved contact with a variety of objects cause these to become potential sources of poisoning. The furry or hairy coats of animals, utensils, such as rakes, scythes and the like, shoes and garments, firewood, sporting goods, like balls, golf clubs, gunstocks, and fish creels immediately suggest themselves in this connection. It should be pointed out that inhaling the smoke of burning ivy, or coming in contact therewith is a spendid means of initiating a case of Rhus dermatitis, as ivy poisoning is designated by physicians. This is not a contradiction of the statement appearing above that the poison is non-volatile, for it has most ingeniously been established that poisoning thus acquired is due to contact with aviating droplets of the poison, that is, tiny globules of the oil which are riding on the minute solid particles of which the smoke is comprised.

What is the chemical nature of this plant poison, is a question which has frequently been asked, but to date it has never adequately been answered. McNair, of the University of Chicago, has been the most successful of those who have devoted themselves to the solution of this enigma. He obtained the poisonous ingredient from the plant by extracting the bark with alcohol. The solution was purified by a some-

what elaborate process, which it will not be necessary to describe, and the resulting product was a reddish, water insoluble, viscous, non-volatile oil with marked potency as a skin irritant. This is not the proper place to give a detailed account of the subsequent work with the poison, which suffice it to say, is a somewhat distant relative of carbolic acid. One of the most unusual features of this compound is the fact that it is made up solely of carbon, hydrogen, and oxygen. Most natural substances with poisonous properties contain nitrogen, and the absence of this element makes the irritant principle of the ivy plant a fascinating substance to those chemists who are interested in determining just how the compound is built up.

Ivy poisoning usually makes its appearance by reddening the skin, and subsequently, eczema-like areas may result. In fact it is frequently difficult to distinguish these two skin troubles. It is claimed that this can be done in the following manner. If cotton moistened with a 1 per cent solution of potassium hydroxide, in a mixture of water and alcohol, is swabbed over the surface black spots and lines, due to the poison, will appear. These spots are like those which result from pine and possibly other resins upon similar treatment, but may be distinguished therefrom by their disappearance when swabbed with a 1 per cent alcoholic solution of nitric acid.

Whenever ivy poisoning is mentioned individuals are found who claim to be immune to it. While there is no doubt that immunity exists, this is, however, found to be only relative and and to depend in part on the thickness of the skin at the point of contact, on the general health, and particularly on the condition of the glands of the skin. Microscopic examinations of affected tissue indicate that the oil and sweat gland openings seem to be channels for the attacking forces of the plant. No racial immunity has been observed, and both blondes and brunettes are anually afflicted in large numbers. Women seem to be more susceptible than men, and fat persons more sensitive than thin. Children are said to be somewhat more easily attacked than adults and their thin skins and natural fearlessness of innocent appearing vegetation may readily account for this seeming acquirement of immunity with years.

Since most persons are, from experience, familiar with the appearance of the surface of skin afflicted by ivy poisoning it will be unnecessary to describe it here, but it may be well to call attention to the fact that as a disease it is not to be scoffed at. Severe cases are accompanied, or followed by symptoms analogous to those of some kidney complaints. Acne, eczema, and other skin disturbances are among the unpleasant fol-

lowers of this common trouble. These may be prolonged and serious, causing no little discomfort to the sufferer. Furthermore, fatal cases are not unknown.

This plant poisoning is somewhat unique among non-bacterial illnesses in having a pronounced period of latency. The onset of the active case is rarely observed before twenty-four hours, and has been known to lag seven days, after contact with the plant. This fact is partially responsible for the incorrect notions regarding the manner of becoming poisoned which prevail in some quarters.

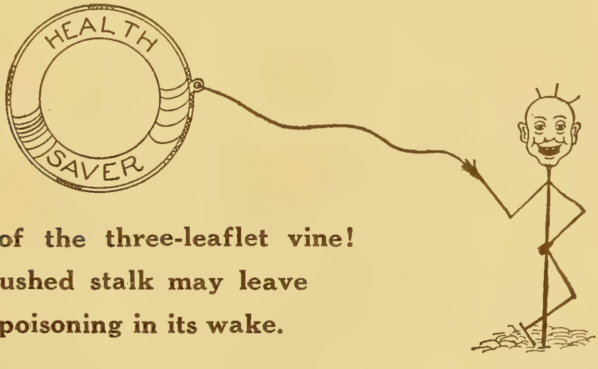
It is evident that considerable care should be exercised to avoid ivy poisoning. Plants should be eradicated by persistent cutting, though they are hydra-like to a marked degree. In the woods and fields, in handling fire-wood, and while among animals, which may have come in contact with ivy plants the hands should be kept away from the face, and, as far as possible, from other parts of the body where the skin is thin and especially sensitive. A thorough scrubbing with an abundant lather of even the most common soap is an admirable "safety-first" measure and a desirable precaution to take as soon after a hike as opportunity offers. Though not soluble in water the poisonous matter will be emulsified by the lather and thus removed from the skin. In the days when long hair was more common than at present the neck and shoulders were sometimes indirectly poisoned from ivy oil on it, although this source of danger has generally been much curtailed some possibility of danger still exists, but this can be removed by washing the hair with 75 per cent alcohol.

If the poisoning has acually set in, bathing the tormented parts with sugar of lead, lead acetate, in water, or better, alcohol will bring relief and effect an ultimate cure. Since sugar of lead is poisonous the solution should be used externally only, and kept out of reach of children. This substance forms an insoluble lead derivative with the poison and gradually dusts off harmlessly. Furthermore, the rather rapid evaporation of the alcohol cools the fevered tissue and temporarily allays this torture. Another remedy is potassium permanganate. This active oxidizing agent destroys the poison by the chemical equivalent of combustion. It should be used in the form of a 2-4 per cent aqueous solution and, preferably, applied hot. This is effective, but leaves the skin stained a dark cocoa color, which wears off in time. After a cure has resulted the stain can safely be removed by repeated washings of the colored area with "hypo," followed each time by dilute acetic acid or vinegar, or still better a solution of sodium bisulfite can be used. McNair, basing his method on the fact that the iron, like the lead, derivative of

the poison is insoluble, advises bathing the affected parts with a 5 per cent solution of ferric chloride. In some places where this has been used the fact that rust stains appear on garments and bed linen has been advanced against it, but these stains are so easily removed by washing the fabrics with oxalic acid solution, that the objection seems trivial. It is assumed that white goods only would come in contact with the iron salt solution. Of course, since oxalic acid is a poison it should be handled judiciously, and all possibility of its internal administration be scrupulously avoided.

Within the last few years a preparation has appeared on the market, available to physicians at any rate, whereby a material obtained from the ivy plant is used to combat the action of the poison. The material, preferably injected hypodermically, not only brings about a cure, but in some instances is said to have produced an immunity extending over a period of months. This method of treatment, which is very rapid, is most attractive, but should not lead the intrepid, but unwary, to recklessly attempt to immunize themselves by chewing portions of the plant. At least one fatal case of internal Rhus dermatitis acquired in this manner is recorded.

In conclusion, it may be well to add that while the watery contents of the characteristic swellings produced by ivy are not poisonous, when the vesicles break bacterial infection of the exposed tissue may result, and hence, as far as possible, the poisoned surface should be kept at all times in an antiseptic condition. In all serious cases of ivy poisoning the services of a physician should be secured to guard the patient against any undesirable complications of whatever sort.



Beware of the three-leaflet vine!
Its crushed stalk may leave
ivy poisoning in its wake.

Preventable Diseases

INCIDENCE OF PREVENTABLE DISEASES, APRIL, 1925

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of April, 1925, with the corresponding month for the years 1920, 1921, 1922, 1923 and 1924 is shown in the following table.

Disease	Average 1920-1924 for Apr.	Mean 1920-1924 for Apr.	1920	1921	1922	1923	1924	1925
Cerebrospinal Meningitis ..	7	5	5	11	11	5	2	4
Diphtheria	208	202	292	202	212	178	154	138
Encephalitis Epidemic	9	9	7	9	10	14	3	4
Measles	819	909	1010	542	909	1002	632	780
Poliomyelitis	1	......	1	......	......	......	3	3
Scarlet Fever	413	397	407	397	252	290	719	480
Smallpox	19	11	......	1	74	11	10	2
Typhoid Fever	11	12	15	16	12	7	3	11
Tuberculosis (pulmonary)	163	142	195	199	138	141	142	151
Whooping Cough	197	210	210	270	124	276	107	402

A comparison of the morbidity on these diseases for the two preceding months, February and March with the April record is as follows:

	February	March	April
Cerebrospinal Meningitis	2	3	4
Diphtheria	202	206	138
Encephalitis Epidemic	4	4	4
Measles	259	632	780
Poliomyelitis	1	......	3
Scarlet Fever	725	637	480
Smallpox	......	......	2
Typhoid Fever	14	12	11
Tuberculosis (pulmonary)	103	124	151
Whooping Cough	197	292	402

Cases of Other Reportable Diseases April, 1925

Botulism	1	Septic Sore Throat	7
Chickenpox	207	Smallpox	2
Conjunctivitis Infectious	3	Trachoma	1
Encephalitis Epidemic	4	Trichnosis	1
German Measles	171	Chancroid	1
Influenza	71	Gonorrhoea	72
Mumps	126	Syphilis	94
Para-typhoid Fever	10	Total	908
Pneumonia (Broncho)	137		

Cases of Occupational Diseases

Dermatitis	5	Skin Eruption	1
Eczema	5	Total	55
Mercurial Poisoning	44		

Cases of Certain Reportable Diseases

April, 1925	Population Est. as of July 1, 1925	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Cerebrospinal Meningitis	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com Diseases
State Total	1,529,688	11	780	480	402	138	4	3	151	23	201	908
NEW HAVEN CO.	**459,157**	**4**	**311**	**123**	**158**	**27**			**50**	**5**	**59**	**282**
New Haven	178,735	1	237	66	57				24	4	24	138
Waterbury	102,134		6	21	4	15			16	1	12	22
Meriden (city and town)	36,251	1		2	13	1			6		5	30
Ansonia	19,034	1	2	7		3			1			1
West Haven	17,834	1	3	9	13						5	17
Naugatuck	16,350											1
Wallingford (town and boro)	12,483			1					1		2	1
Milford	13,473		2	2		2			1		5	4
Derby	12,500			1								7
Hamden	10,150		14	8	65	1					1	34
Branford (town and boro)	6,954		38		2	3					2	1
Seymour	7,911											
Towns under 5,000	25,348		9	6	4	2			1		3	26
FAIRFIELD CO.	**363,740**	**1**	**5**	**153**	**63**	**37**	**1**		**26**	**3**	**50**	**146**
Bridgeport	166,644		2	60	2	23	1		17	1	27	29
Stamford (city and town)	46,218			19	8	1			2		1	28
Norwalk	29,596		1	3	1	8			2			3
Danbury (city and town)	21,931			3	2				2		8	13
Greenwich (town and boro)	25,207			8	13				1	2	4	25
Stratford	16,085			16		3			2		2	4
Fairfield	14,490				20	1					1	1
Shelton	11,134		1	28							2	13
Westport	5,597			13								5
Towns under 5,000	26,838	1	1	3	17	1					5	25
HARTFORD CO.	**384,608**	**2**	**49**	**86**	**61**	**45**	**3**	**1**	**52**	**12**	**62**	**239**
Hartford	160,199	2	12	21	35	23	1	1	25	3	19	115
New Britain	67,896		27	30		7	1		12	7	13	27
Bristol (city and town)	24,621		1	6		5	1		3		4	9
Manchester	21,018		1	9					1	1	6	14
Enfield	12,834		2	3		2					4	6
East Hartford	13,616		1	1	1	2			2	1	2	4
Southington (town and boro)	9,529		1	1		1					1	5
West Hartford	11,146			2	23				1			23
Windsor	6,436			3		1			1		2	2
Glastonbury	6,042			1	1						2	2
Wethersfield	5,018			2	1	1					1	
Towns under 5,000	46,253		4	7		3			7		8	32
NEW LONDON CO.	**112,155**	**1**	**9**	**16**	**45**	**16**		**2**	**10**	**1**	**14**	**69**
Norwich (city and town)	30,425			3	4	5			4		1	6
New London	29,003		2	3	36	1			5	1	5	35
Stonington (town and boro)	10,819		1	2		1			1		3	8
Groton (town and boro)	10,764			5	3	3					1	5
Towns under 5,000	31,144	1	6	3	2	6		2			4	15
LITCHFIELD CO.	**79,851**	**1**	**7**	**29**	**11**	**10**			**1**	**1**	**1**	**24**
Torrington (town and boro)	24,492									1		1
Winchester (inc. Winsted)	9,129					3						
Plymouth	6,349	1		4		1			1			1
Watertown	7,192											
Towns under 5,000	32,689		7	25	11	6					1	22
WINDAHAM CO.	**55,360**			**56**	**7**	**2**			**4**		**5**	**42**
Windham (inc. Willimantic)	14,368			3	4				1		1	3
Putnam (city and town)	8,990			43		1					1	7
Plainfield	8,570					1			2		1	1
Thompson	5,196											1
Killingly (inc. Danielson)	9,051								1		1	3
Towns under 5,000	9,185			10	3						1	27
MIDDLESEX CO.	**47,152**	**2**	**399**	**15**	**55**				**8**	**1**	**6**	**84**
Middletown (city and town)	22,649	2	259	5	28						3	64
Middletown State Hospital									7	1		
Towns under 5,000	24,503		140	10	27				1		3	20
TOLLAND CO.	**27,665**			**2**	**2**	**1**					**4**	**22**
Vernon (inc. Rockville)	8,822			1		1						2
Stafford (town and boro)	5,457			1	2						3	3
Towns under 5,000	13,386										1	17

(For cases of other reportable diseases, see page 88)

Laboratories

REPORT OF THE BUREAU OF LABORATORIES FOR APRIL, 1925

DIAGNOSTIC

	+	—	?	Total	
Typhoid					
Blood for Widal	3	44	1	48	
Blood cultures	....	1	....	1	
Feces	....	106	....	106	
Urine	....	74	....	74	
Paratyphoid A					
Blood for Widal	....	48	....	48	
Blood cultures	....	1	....	1	
Feces	1	105	....	106	
Urine	1	73	....	74	
Paratyphoid B					
Blood for Widal	2	46	....	48	
Blood cultures	1	....	....	1	
Feces	10	96	....	106	
Urine	11	63	....	74	
Diphtheria Cultures					
Diagnosis	132	366	....	498	
Release	66	187	....	253	
Diphtheria Carriers					
Diagnosis	38	232	....	270	
Release	108	362	....	470	
Diphtheria Virulence ..	3	10	....	13	
Vincent's Angina	....	517	....	517	
Haemolytic Streptococci	10	506	....	516	
Tuberculosis					
Sputum preparations	27	123	....	150	
Pleural Fluid	....	1	....	1	
Smear, enlarged glands	....	1	....	1	
Urine, animal inoculation	....	1	....	1	
Syphilis	174	1388	146	1708	
Colloidal Gold Test for Spinal Fluids	8	17	....	25	
Gonorrhoea	17	78	....	95	
Pneumonia					
Typings for Type IV	1	....	....	1	
Malaria	....	1	....	1	
Rabies	1	8	....	9	
Glanders	....	1	....	1	
Feces					
Tapeworm	1	....	....	1	
Special specimens	....	5	....	5	
					5,223

CHEMICAL AND BACTERIOLOGICAL

Milk samples tested	228	228
Towns sending milk samples	25	
Milk samples below fat standard	17	
Towns sending water samples	71	
Water samples tested	154	154
Clinical thermometer examinations	189	189
For permits to seal	2	
For certification	187	
Total number of examinations made		5,794

Vital Statistics

MONTH OF MARCH, 1925

Births

During the month of March 2,431 births were reported. This number is 373 less than the 2,804 reported in March 1924. The birth rates for this month and March, 1924, are 19.1 and 22.4 respectively.

For the five year period 1920-1924 the average number of births for the month of March is 2,889, from which the above figure differs by 458. This last figure is too far from the average to be within the permitted limits of variation and hence may be taken as an indicator of the downward trend of births in the state.

Of the towns over 5,000 population only three report increases of 10 or more in the number of births over the figure for last March. These towns, with the actual increases, are Ansonia, 17; Norwalk, 11; and Stamford, 11.

There were 81 stillbirths reported, making the total of births and stillbirths 2,512. The stillbirths constitute 3.2 per cent of this total. In March, 1924, there were 91 stillbirths. Total of births, and stillbirths is 2,895, of which the stillbirths make up 3.1 per cent.

Deaths

With the exception of 1921 the deaths reported in March have never been so low. One thousand six hundred and ninety-seven deaths, yielding a rate per 100,000 population of 13.3, were reported. For March, 1924, 1,762 deaths, with a rate of 14.1 were reported. The deaths show a decrease of 65 over last March.

The five year average of deaths during the month of March is 1,787. Hence, this month's total is 90 less than the average.

The decrease noted this month, though not extreme, is encouraging to those who seek to lower mortality rates. March is usually a peak month for many diseases. Deaths, in general, start to increase in November, swelling to a maximum in March and then dropping sharply in April.

This year has been no exception to the rule, except that the maximum for March is not as high as last year. Hence, we may expect to achieve a better health record than last year if we can maintain our present rate.

The table below shows how some of the decreases can be explained.

CAUSE OF DEATH	1925	1924	INCREASE	DECREASE
Diseases of the Heart	245	262	......	17
Epidemic Encephalitis	3	3	......	......
Pneumonia Undefined	4	10	......	6
Typhoid Fever	6	4	2	......
Measles	5	5	......	......
Scarlet Fever	7	7	......	......
Whooping Cough	10	6	4	......
Diphtheria	12	17	......	5
Influenza	74	38	36	......
Tuberculosis (Pulmonary)	91	97	......	6
Tuberculosis (Other forms)	22	8	14	......
Cancer	139	129	10	......
Meningitis Cerebro-spinal	2	2	......	......
Poliomyelitis	1	2	......	1
Pneumonia Lobar	125	122	3	......
Pneumonia Broncho	106	132	......	26
Diarrhoea and Enteritis, Under 2	12	18	......	6
Puerperal Diseases	12	14	......	2
Accident	81	81	......	......
Suicide	10	11	......	1
Homicide	1	4	......	3
All others	729	790	......	61
Total	1,697	1,762	69	134

From a study of the above table it may be seen that the decrease for this month does not occur all along the line. On the contrary there appear marked increases in influenza, other forms of tuberculosis, and cancer.

Influenza has been much more prevalent this winter than last year. Attention was called to this fact in the November report.

An increase in other forms of tuberculosis is rather unusual because this disease is generally considered to be on the down grade.

Decreases of 17 from diseases of the heart and 26 from broncho pneumonia are the items which stand out in the other column.

To attribute the falling off of broncho pneumonia to the mildness of the usually blustering month is not justifiable, nevertheless one cannot entirely divorce the effect of climate and the prevalence of this disease.

Infant Mortality

The infant mortality for the first quarter of 1925 as compared with the same period of 1924 appears below.

Rate per 1,000 live births.

	1925	1924
January	95.3	86.4
February	89.8	83.9
March	90.5	89.2
Average	91.8	86.5

From these figures it would seem that the record for 1925 is not so good as that of 1924. January and February seem to be the chief offenders. With the winter months gone we may hope for improvement, but it must be marked or we will not attain the low rate of 68.9 which prevailed last year.

Accidents

There were 81 fatal accidents this month, of these 16, or 19.8 per cent were automobile accidents. Strange to relate there were exactly 81 accidental deaths and 16 automobile fatalities in March, 1924.

Marriages

The number of marriages reported this month is 491. This is only one greater than the lowest number reported in the last five years for this month. Last March 678 marriages were reported, a figure 187 in excess of this month's total. The rates for this month and March, 1924, are 3.9 and 5.4 respectively.

For Six Year Study—March, 1920-1925

CONNECTICUT	1920	1921	1922	1923	1924	1925
BIRTHS	3174	2981	2772	2715	2804	2431
Birth Rate	27.3	25.2	23.0	22.1	22.4	19.1
DEATHS	1802	1492	1921	1959	1762	1697
Death Rate	15.5	12.6	15.9	15.9	14.1	13.3
MARRIAGES	527	645	428	490	678	491
Marriage Rate	4.5	5.4	3.5	4.0	5.4	3.9
COMMUNICABLE DIS.* DEATHS	381	213	345	367	178	208
Per Cent to Total Deaths	21.1	14.2	18.0	18.7	10.1	12.3
DEATHS UNDER 1 YEAR	291	248	269	260	229	220
Rate per 1000 births	102.1	87.0	103.1	101.4	86.8	85.6

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

Births, Marriages and Deaths

March, 1925 Statistics	Population Est. as of July 1, 1925 Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Still Births	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,529,688	2431	81	491	1697	13.3	0.7	85.6	216	82	588
Ansonia	19,034	34	2	1	15	9.5	0.6	119.6	3	2	6
Branford	6,954	13	....	1	6	10.4	....	103.4	1	....	3
Bridgeport	166,694	277	9	40	188	13.5	0.9	73.3	20	9	51
Bristol	24,621	46	1	3	12	5.8	2.4	39.8	2	1	2
Danbury	21,931	39	1	3	32	17.5	1.1	69.6	3	1	11
Derby	12,500	32	....	1	12	11.5	....	81.8	3	1	2
East Hartford	13,616	9	....	2	10	8.8	1.8	....	....	....	4
Enfield	12,834	18	....	15	7	6.5	....	81.1	2	1	1
Fairfield	14,490	21	....	2	8	6.6	....	....	....	....	7
Glastonbury	6,042	10	....	....	3	6.0	....	155.8	1	....	....
Greenwich	25,297	43	....	55	23	10.9	1.9	....	....	....	12
Groton	10,764	6	....	2	10	11.1	....	88.9	1	....	7
Hamden	10,150	15	....	2	7	8.3	....	61.2	1	....	3
Hartford	160,199	351	14	80	230	17.2	0.5	80.1	27	17	66
Killingly	9,051	7	1	1	10	13.3	1.3	183.7	3	1	5
Manchester	21,018	39	....	12	18	10.3	0.6	78.8	3	2	7
Meriden	36,251	66	....	8	45	14.9	1.3	34.4	2	2	17
Middletown	22,649	37	1	5	49	26.0	0.5	....	....	2	24
Milford	13,473	....	....	....	....	....	....	....	....	....	....
Naugatuck	16,350	14	....	3	11	8.1	2.2	71.4	1	....	2
New Britain	67,896	129	4	11	63	11.1	0.4	138.4	19	4	18
New Haven	178,735	319	8	72	217	14.6	1.0	74.6	25	8	85
New London	29,003	34	7	18	30	12.4	0.8	30.3	2	....	11
Norwalk	29,596	69	2	11	45	18.2	....	85.1	5	....	15
Norwich	30,425	68	....	9	46	18.1	1.6	101.7	7	3	10
Plainfield	8,570	8	....	1	6	8.4	....	....	....	....	3
Plymouth	6,349	7	....	3	3	5.7	....	....	....	1	1
Putnam	8,990	17	2	3	10	13.3	....	52.4	1	1	4
Seymour	7,911	10	....	1	10	15.2	....	93.8	1	....	6
Shelton	11,134	13	....	2	23	24.8	1.1	70.2	1	....	7
Southington	9,529	13	....	1	7	8.8	....	64.9	1	2	1
Stafford	5,457	9	1	3	9	19.8	....	125.7	2	1	....
Stamford	46,218	93	5	18	58	15.1	1.0	71.5	7	5	15
Stonington	10,819	8	....	6	7	7.8	....	....	....	....	5
Stratford	16,085	25	1	....	12	9.0	....	103.0	2	....	3
Thompson	5,196	8	....	2	4	9.2	....	....	....	....	3
Torrington	24,492	38	1	3	22	10.8	....	90.6	4	4	4
Vernon	8,822	7	1	1	4	5.4	....	....	....	....	2
Wallingford	12,483	12	....	3	9	8.7	1.0	....	....	2	4
Waterbury	102,134	157	4	32	106	12.5	0.1	133.5	23	4	30
Watertown	7,192	6	....	1	4	6.7	....	....	....	....	3
West Hartford	11,146	20	....	3	9	9.7	....	125.7	2	....	4
West Haven	17,834	26	2	4	27	18.2	....	29.3	1	1	6
Westport	5,597	9	....	....	7	15.0	2.1	166.7	1	....	2
Winchester	9,129	11	1	1	17	22.3	1.3	53.6	1	1	6
Windham	14,368	23	2	4	10	8.4	0.8	34.7	1	....	5
Windsor	6,436	3	....	2	5	9.3	1.9	244.8	2	....	1
Wethersfield	5,018	4	....	1	1	2.4	....	....	....	....	1
Towns under 5,000	209,346	208	11	39	230	13.2	0.3	138.9	35	6	103

for the Month of March, 1925

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
245	3	4	6	5	7	10	12	74	91	22	139	2	1	125	106	12	12	81	10	1	555	268
5	......	......	......	......	......	......	1	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	1	......	......	......	......	......	......	1	......	......	1	......	......	......	......	......	......	......	......
33	1	......	3	......	......	......	2	3	7	3	17	1	......	14	8	1	......	12	1	......	83	20
1	......	......	......	......	......	......	......	......	3	......	2	......	......	1	......	1	......	1	......	......	3	......
2	......	......	......	......	......	......	......	3	1	......	4	......	......	2	1	......	1	1	......	......	15	5
......	......	......	......	......	......	......	......	1	......	......	1	......	......	......	2	......	......	......	......	......	6	4
4	......	......	......	......	......	......	......	......	2	......	1	......	......	......	1	......	......	......	......	......	......	......
......	......	......	......	......	......	1	......	1	......	......	......	......	......	......	......	......	1	1	......	......	......	......
3	......	......	......	......	......	......	......	1	......	......	1	......	......	......	......	......	......	......	......	......	......	2
......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......
4	......	......	......	......	......	......	......	......	3	1	......	......	......	3	1	......	......	......	1	......	10	4
1	......	......	......	......	......	......	......	1	......	......	......	......	......	......	1	......	......	1	......	......	......	......
3	......	......	......	......	......	......	......	......	......	......	......	......	......	1	1	......	......	......	......	......	......	......
28	1	......	......	......	1	......	1	8	6	3	23	......	......	23	21	......	2	20	1	......	133	54
2	......	......	......	......	......	......	......	......	1	......	......	......	......	1	2	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	1	......	4	......	......	3	2	......	......	2	......	......	2	......
6	......	......	1	......	1	......	......	3	2	......	6	......	1	4	4	......	......	3	......	......	15	2
15	1	......	......	......	......	......	......	2	2	1	2	......	......	4	3	......	1	1	......	......	33	23
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	3	......	......	......	......	3	......	1	......	......	......	......	......	......
9	......	......	......	1	......	......	......	1	1	......	6	......	......	2	6	3	1	4	......	......	20	3
32	......	......	......	2	......	2	......	10	9	4	13	1	......	11	11	......	......	5	1	......	33	34
6	......	......	......	......	......	......	......	2	1	......	4	......	......	2	1	......	......	1	1	1	13	5
7	......	......	......	......	......	1	1	2	......	......	10	......	......	5	1	......	......	......	......	......	12	3
5	......	......	......	......	......	1	......	4	10	......	3	......	......	......	4	1	2	2	......	......	17	10
......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......
1	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
3	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	2	......	......	2	1
2	......	......	......	......	......	......	......	3	......	......	......	......	......	......	......	......	......	......	......	......	......	......
3	......	......	......	......	2	......	......	......	13	......	......	......	......	......	......	......	......	......	......	......	12	12
1	......	......	......	......	......	......	2	......	......	......	1	......	......	......	......	......	......	1	......	......	......	1
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	3	......	......	1	......	......	5	1
8	......	......	......	......	1	......	1	4	3	1	5	......	......	5	3	......	1	3	......	......	20	5
3	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......	1
3	......	......	......	......	......	1	......	......	......	......	2	......	......	3	......	......	......	......	1	......	......	......
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......
2	......	......	......	......	......	......	......	......	......	......	1	......	......	5	1	1	1	2	......	......	9	2
......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	1	......
3	......	......	......	......	......	......	......	1	......	......	1	......	......	2	......	......	......	......	......	......	2	1
8	......	2	1	......	......	1	......	7	1	4	8	......	......	8	7	2	1	2	......	......	44	15
1	......	......	......	......	......	......	......	......	......	......	1	......	......	2	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	3	2
2	......	......	......	......	1	......	......	......	7	......	1	......	......	3	2	......	......	2	2	......	10	11
......	......	......	......	......	......	......	......	......	1	......	3	......	......	......	......	......	......	......	......	......	1	2
2	......	......	......	......	......	......	1	......	1	......	3	......	......	......	......	......	......	......	......	......	5	2
......	......	......	......	......	......	......	......	1	......	......	......	......	......	1	......	......	......	......	......	......	2	1
......	......	......	......	......	......	1	......	......	1	......	......	......	......	......	......	......	......	1	......	......	......	......
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
31	......	2	1	1	1	1	1	14	11	4	14	......	......	16	18	2	1	12	1	......	44	42

THE A, B AND C OF NUTRITION

The vitamins, although unknown as to their chemical structure, have moved into the forefront of attention through the wide publicity which has been given to the trio under the names A, B and C. These newest members of the nutrition family have with stalwart strides taken their places with proteins, carbohydrates, fats and mineral elements, and have become so popular that they bid fair at times to overshadow the others unless one keeps firmly in mind the importance of each in a well rounded diet.

Countless attempts have been made to isolate the vitamins from their native sources, but with unsuccess. They are either so minute in structure or so intangibly intermingled with other vital tissues that their real nature remains a mystery. Strange as it may seem, they are best known by the effect produced when one or more are absent from the diet.

Biologic Method of Studying Foods

The biologic method of studying foods has been made necessary whereby the vitamin content of a food is measured through its effect on animals when used as the sole source of a particular vitamin, in addition to a diet which is otherwise adequate in every respect. The white rat lends itself admirably to such experimentation because of its short life span and its similiarity in feeding habits to man. Thus in a few months time may be studied the effect of a diet deficient in one or more respects, through the infant, adolescent and adult stages of life, and the ability of such a diet to meet the requirements of reproduction. Such studies have been carried on through many generations of rats and some illuminating results have been shown which help to interpret human needs if the fullest vigor and health are to be attained.

Through such experimentation the whole vitamin theory has come to light during the last twenty-five years. To be sure it was known that lemon juice would cure scurvy some two hundred years ago, but vitamin C was unheard of at that time. Not until investigators experimented with purified foodstuffs in their search for more light on the protein and mineral needs of the body, was it discovered that certain

other unidentified substances seem to be necessary in normal nutrition. In 1906 Hopkins of England announced "no animal can live upon a mixture of pure protein, fat and carbohydrate and even when the necessary inorganic material is carefully supplied, the animal still cannot flourish. The animal body is adjusted to live either upon plant tissues or other animals and these contain countless substances other than proteins, carbohydrates and fats." Many other investigators came to the same conclusion at about this time and so it became generally recognized that there was present in certain foods such as milk and green vegetables, two substances which were essential to growth. One of these was found to be associated with the fat and so became known as the fat-soluble vitamin, while the other, also essential to growth, was water-soluble. Later these were designated as A, and B vitamins respectively.

Vitamin B

Although the discovery of vitamin B as a growth promoting factor was coincident with that of vitamin A, it was later found that this was the same vitamin which had been previously discovered in 1897, as the substance needed to protect against beriberi. Beriberi was a disease prevalent in the east among people who had lived on a restricted diet in which polished rice predominated. The same disease could be studied experimentally with fowls, as polyneuritis, and it was found that there was some substance present in the germ and outer coats of the grain which protected against this disease. This was proven by the immediate cure which resulted from the use of the rice polishings, after the disease had been brought about experimentally by a diet of polished rice.

So, before the vitamin theory was on its way to popularity the substance which is now known as vitamin B was recognized. Its discovery had far reaching results since it established a cure for this neuritis, or beriberi, which had been prevalent for years with no known cure. Vitamin B, otherwise known as water-soluble B, and antineuritic vitamin, is now recognized as one of the essential factors in nutrition. Subsequent investigation with rats has shown that a diet lacking in vitamin B will lead to loss of weight with a marked loss of appetite, followed by disturbances in nerve control if continued over long periods.

Vitamin B is fairly wide spread in foods, found in milk, eggs, whole grains, vegetables and fruits. This points to the need of a generous supply of such foods in the diet if continued health is to be assured. It also suggests the

advantages of using breads and cereals of the whole grains in place of the more refined milled products.

Vitamin A

Vitamin A, otherwise known as the growth-promoting vitamin, or fat soluble vitamin has a profound influence on health. This has been shown through the experiments with rats. When diets adequate in all other respects are entirely lacking in this vitamin loss of weight gradually results and a noticeably lowered vitality which finally leads to disease and often death. A peculiar eye infection known as xeropthalmia often follows lack of Vitamin A in the diet which, if long continued may lead to blindness. The only cure for this condition is a supply of vitamin A, such as butter, in the diet. This eye disease was well known in Denmark among people who lived largely upon separator skim milk, and it was cured by the substitution of whole milk which contains the fat, associated with which is vitamin A. Unlike the other vitamins, vitamin A may be stored in the body largely in the lung and liver tissue. This fact is emphasized by Sherman who believes that tuberculosis and other infections may result from a lowering of resistance due to the lack of this vitamin in the body.

The foods which contain vitamin A form a fairly small group—whole milk, cream, butter, egg yolk, liver tissue, cod liver oil, and green leafy vegetables. This points to the need for large amounts of such foods daily not only during the growing period so that normal growth may be assured, but in the adult as well so that normal health may be maintained. Vitamin A has also been proven essential during the reproduction and nursing period—so every prospective mother should be well supplied with the foods known to be rich in this vitamin.

Vitamin C

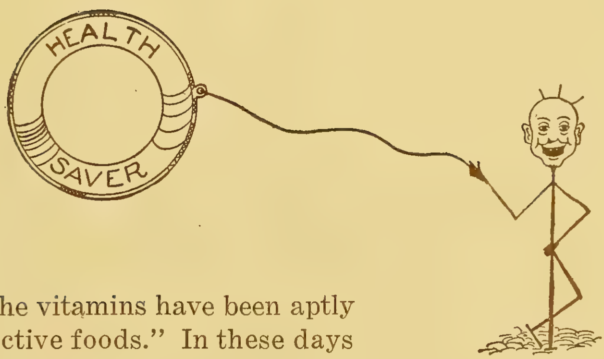
Vitamin C is also known as the antiscorbutic vitamin, as it not only cures scurvy, but protects against it. Study of this vitamin has led to the use of the guinea pig as an experimental animal, since rats seem to be immune to scurvy. Guinea pigs fed on a diet which is adequate in all respects except for vitamin C will develop the disease in from two to three weeks. This is manifested by swollen joints, paralysis of the limbs, bleeding of the gums and loosening of the teeth. If this is not too far advanced some food as a rich source of vitamin C will promptly cure the disease.

Vitamin C is found in raw fruits, such as oranges and lemons, and green vegetables, spinach, cabbage, lettuce, also

tomatoes. While apples, potatoes, milk are low in vitamin C, they are an important source since these are taken in fairly large quantities. Vitamin C is easily destroyed by heat so this points to the need for some raw food in the diet each day. While scurvy is not prevalent in this country it has been suggested by Hess that failure to grow normally and a certain irritability and lack of stamina found in some young children, may be latent scurvy, and this can be averted by a daily supply of some antiscorbutic food. Vitamin C has also proven to be an important factor in tooth development and the maintenance of healthy dental tissue as shown by recent experiments on monkeys by Howe.

Vitamin A and B are not changed to any great extent by cooking, though there may be a slight loss of vitamin B in the cooking water since this vitamin is water-soluble. Reducing the cooking water to a minimum and using the water as well as the vegetables is a wise precaution.

Recent investigations have suggested the possibility of a fourth vitamin which seems to be associated with vitamin A in fat. This is the antirachitic vitamin, two of the known sources of which are egg yolk and cod liver oil.



Foods rich in the vitamins have been aptly called the "protective foods." In these days when prevention is the key-note, it is wise to be on the safe side of health by a liberal use of whole milk, green vegetables, whole grains and raw fruits.

SOURCES OF VITAMINS A, B, and C†.

Food	Vitamin A	Vitamin B	Vitamin C
Apples, raw	+	+	++
Asparagus	*	+++	*
Bacon	— to +	+	?
Bananas, raw	+?	+	++
Beans, navy	+	+++	*
Beans, string, fresh, raw	++	++	++
Beets (roots)	*	+	*
Beet leaves	++	+	*
Bread, white	?	+	—
Bread, whole wheat, water	+	++	?
Butter	+++	—	—
Buttermilk	+	++	+ variable
Cabbage, green raw	++	++	+++
Cabbage, head, cooked	+	++	+
Carrots, fresh, raw	++	++	++
Carrots, cooked	++	+	+
Cauliflower	+	++	+
Celery, bleached stems	— to +	++	*
Chard	++	+	*
Cheese, full milk	++	*	*
Codliver oil	+++	—	—
Corn (maize) yellow	+	++	—
Corn oil	?	—	—
Cream	+++	++	+ variable
Cucumber	*	+	++?
Dandelion greens	++	++	+
Eggs	+++	+	+?
Egg yolk	+++	+	*
Fish, lean	— to +	+	*
Flour, white	—	+	—
Flour, whole wheat	+	++	—
Grapes	*	+	+
Grape fruit	*	++	++?
Lemon juice	?	++	+++
Lettuce	++	++	+++
Liver	++ variable	++	+
Margarine, vegetable fat	—	—	—
Meat (muscle)	— to +	+	to +
Milk (whole)	+++	++	+ variable
Milk condensed	+++	++	+ variable
Milk evaporated	+++	++	—?
Milk dried, whole	+++	++	+ variable
Milk, fresh, skim	+	++	+ variable
Oatmeal	— to +	++	—
Olive oil	—?	—	—
Onions, raw	— to +	++	++
Orange juice	+ to ++	++	+++
Parsnips	—?	++	*
Peanut butter	+	++	*
Peas, young green	++	++	++?
Peas, dry	+	++	?
Pineapple, fresh, raw	++	++	+++
Potatoes, sweet	++	+	*
Potatoes, white, raw	+	++	++
Prunes	+	+	—
Raisins	?	+	—
Rice, whole grain	+	++	—
Rutabaga	—?	++	+++?
Spinach, raw	+++	+++	+++
Squash, Hubbard	++	*	*
Starch	—	—	—
Sugar	—	—	—
Tomato, raw	++	+++	+++
Tomato, canned	++	+++	+++
Turnip	— to +	++	*
Yeast	—	+++	—

† From "Food Products" by Sherman
\+ food contains the vitamin
++ a good source of the vitamin
+++ food is an excellent source of the vitamin
— food contains no appreciable amount of the vitamin
? doubt as to presence
* evidence is lacking

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STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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THE TREATMENT OF SCARLET FEVER WITH ANTITOXIN

By Francis G. Blake, M. D., New Haven Conn.

In a preliminary report on the therapeutic value of scarlatinal antitoxin presented in 1924 it was stated that the antitoxin produced a local blanching of the rash following intracutaneous injection, that it promptly neutralized the toxin and established an excess of antitoxin in the blood of patients following intramuscular injection in therapeutic doses, and that it appeared to bring about a rapid cure of the disease, as shown by a critical fall of temperature to normal, rapid fading of the exanthem, and disappearance of the toxic manifestations of the disease. Further experience has served to confirm these observations, to define with greater exactitude the therapeutic value of the antitoxin in (1) uncomplicated scarlet fever, (2) scarlet fever with septic complications and (3) post-scarlatinal sepsis, and to indicate the amount of antitoxin required to cure the disease in cases of varying degrees of severity. Briefly summarized 57 uncomplicated cases, of which 2 were extremely severe, 11 severe, 23 moderately severe, and 21 mild, were all cured within 12 to 36 hours; 48 complicated cases, of which 10 were extremely severe, 18 severe, 13 moderately severe and 7 mild, were all with one exception promptly cured of scarlet fever and their complications subsided more or less rapidly depending upon the nature, severity, and duration of the complication. Seven late cases of post-scarlatinal sepsis were not benefited, 5 recovered, 2 died.

From these results it may be concluded that the antitoxin promptly cures scarlet fever, that although it has no direct curative effect on septic complications it indirectly benefits them during the acute stage of the disease presumably by curing the scarlet fever, and that it is of no demonstrable value

in post-scarlatinal sepsis after the rash has disappeared. It should, therefore, be given in all cases just as soon as the diagnosis is made, irrespective of the severity of the case at the moment, the same considerations being applicable as in the treatment of diphtheria with antitoxin. The best results cannot be expected if the antitoxin is withheld until the patient has become seriously ill or severe septic complications have developed.

Of the 57 uncomplicated cases 5 subsequently developed mild complications from which they satisfactorily recovered. Of the 48 complicated cases 5 developed additional complications from which they recovered. From these results it may be concluded that early treatment is effective in reducing the incidence of complications but will not certainly prevent them in all cases.

The goal to be attained in the treatment of scarlet fever with antitoxin is the prompt neutralization of toxin and simultaneous establishment of a considerable excess of antitoxin in the circulating blood of the patient as early as possible in the disease. The amount of serum required will vary with the size of the patient, the severity of the disease, and the antitoxin content of the serum used. In order to determine the amount of serum necessary to accomplish the desired result the presence of toxin and antitoxin in the blood before and at intervals after intramuscular treatment has been determined in a series of 42 cases of scarlet fever of varying ages and degrees of severity, treated with 9 different lots of serum of varying antitoxin content per cc.

The presence of toxin in the patient's blood was determined by the capacity of the patient's serum to produce a local reaction, similar to the Dick test, in the skin of susceptible human volunteers, the presence of antitoxin by the capacity of the serum to produce a positive blanching test in patients with scarlet fever. The method of comparing the antitoxin content of different lots of serum was to determine the minimum amount of serum that would produce a positive blanching test. This has been designated the minimum blanching dose.

The results of the study show that a serum to be therapeutically efficient should contain at least 12,500 minimum blanching doses of antitoxin per cc. This is equivalent to at least 10,000 skin test neutralizing doses per cc., or ten times as strong as the standard suggested by the Drs. Dick. Translation of these figures into terms of units recently adopted by the U. S. Public Health Service shows that a serum should contain at least 100 units of antitoxin per cc. (1 unit=10 times the amount of antitoxin that will neutralize 10 skin test doses of toxin).

The maximum doses of a serum containing 100 units of antitoxin per cc. required to cure scarlet fever promptly and with certainty by intramuscular injection are as follows:—

	Children		Adults	
Mild	30 cc.	(3000 units)	30-40 cc.	(3000-4000 units)
Moderate	30-40 cc.	(3000-4000 units)	40-	(4000 units)
Severe	40-60 cc.	(4000-6000 units)	60-80 cc.	(6000-8000 units)
Extremely severe	60-80 cc.	(6000-8000 units)	80-100 cc.	(8000-10000 units)

The study also shows that a serum containing 2500 minimum blanching doses per cc. (2000 skin test neutralizing doses or 20 units per cc.), is of doubtful therapeutic value, and that one containing 500 minimum blanching doses per cc. (400 skin test neutralizing doses or 4 units per cc.), is of no therapeutic value in the dosage outlined above when given intramuscularly.

The maximum dosage required rather than the minimum has been presented in order that those using the antitoxin might not be disappointed in the therapeutic results by the use of too small doses; the intramuscular route of injection rather than the intravenous has been studied because the intramuscular route will be more generally used in practice. By intravenous injection the units of antitoxin necessary to cure can undoubtedly be reduced. The required amount should be estimated in each case and the full dose administered as soon as the diagnosis is made.

Preventable Diseases

RECENT ADVANCES IN SCARLET FEVER PREVENTION

It is gratifying to know that some of the recent work on scarlet fever has been done in Connecticut by Dr. Francis G. Blake of New Haven. Special attention is invited to his paper on the subject appearing in this issue of the Bulletin. Dr. Blake has cooperated with Dr. E. R. Dochez of New York in developing and testing a serum method for the treatment of scarlet fever. His results, together with those of other workers, indicate that at last we have a serum to be depended upon when dealing with scarlet fever in the acute stage. The serum also probably has a value for temporary immunization. Owing to difficulties in concentrating the scarlet fever serum unconcentrated serum is often used and horse serum rashes are more frequent than after diphtheria antitoxin that has been concentrated.

So far, six firms have been licensed by the United States Public Health Service to sell scarlet fever streptococcus antitoxin or serum in interstate commerce. Different procedures are followed by the different firms in immunizing horses and preparing the serum for use. The products may not be of uniform strength. In fact, different lots made by the same firm may be expected to vary in antitoxin content until more accurate methods of standardization have been developed. It is believed, however, that the requirements of the Public Health Service will insure serum marketed by all the firms to have anti-scarlet fever potency. That the serum contains a specific antitoxin appears certain. Its main action is antitoxic in character. Whether some products also have an antibacterial action is not known.

The State Department of Health does not supply scarlet fever streptococcus antitoxin as it does other biological products. There appears to be still an experimental element in the production and use of scarlet fever antitoxin and serum. Even though its continued use is abundantly justified by the results so far attained, it seems desirable to have questions concerning its production and use more definitely settled before it is furnished routinely at public expense.

While Drs. Dochez and Blake have been directing their efforts toward finding a specific cure for scarlet fever, Drs. George F. and Gladys H. Dick of Chicago in addition have developed a method of testing persons for susceptibility to

the disease and immunizing those who are suceptible. The method is essentially analagous to the well known procedures in relation to diphtheria. Susceptible persons are picked out by means of a test devised by the Drs. Dick and bearing their name, which consists in the intradermal injection of a small portion of scarlet fever streptococcus toxin. The reaction is read 24 hours later. For immunization purposes scarlet fever streptococcus toxin is used in much larger doses.

In many respects these American investigators have duplicated work previously done abroad. In 1902 Moser described a serum for the treatment of scarlet fever which proved effective and was the most widely used of many sera designed for this purpose. In 1905 Gabritchewsky introduced a procedure for immunizing against scarlet fever by the use of a hemolytic streptococcus vaccine, and many Russian children have been treated by this method. To the credit of American workers be it said that they appear to have succeeded in grasping somewhat more firmly certain basic facts underlying the scarlet fever problem, and thus find themselves on more secure ground in combatting the elusive streptococcus some strains of which cause this disease.

But there are yet many things to learn. For example, the accurate measurement of toxin for use in testing and immunizing has been found a difficult matter. Animals are not suceptible to its action and all tests must be made on human beings. The measure tentatively adopted is the skin test dose. Opinions of different observers vary concerning the amount of toxin required for this purpose. In fact, some workers report obtaining similar results with different doses of the same toxin.

For scientific work in developing a test like the Dick Test, a control is necessary in order to ascertain the reaction to be expected. After enough knowledge has been gained of the test so that it may be adopted as a routine measure, a control test need not be given unless it be for retest purposes. At first it was thought that heating the scarlet fever toxin would destroy it as in the case of diphtheria toxin but it has been found that not all scarlet fever toxin is destroyed even by prolonged boiling. This discovery has led some workers to prepare toxin for the control test by neutralizing with convalescent serum from scarlet fever patients.

At first it was assumed that immunity induced by giving scarlet fever streptococcus antitoxin or serum would be as lasting as the immunity against diphtheria induced by giving toxin-antitoxin. Later experience indicated a possible short duration of immunity against scarlet fever. According to recent reports there appears to be a swing of opinion among

investigators toward the view held by the Drs. Dick that immunity against scarlet fever is lasting provided a sufficient amount of toxin is given for the purpose of immunization. Dr. Zingher of New York reported using four doses of toxin containing 250, 1,000, 2,000 and 4,000 skin test doses respectively. These doses are given a week apart and may occasionally produce a scarlet fever rash in susceptible persons. It will take time to definitely settle the duration of immunity question.

Another point of importance is that immunity comes on quickly after treatment with scarlet fever toxin so that this method can be used in controlling an outbreak. It is of interest too that the Dick Test by giving a reaction within 24 hours may have value for diagnostic purposes. The blanching test from the intradermal injection of antitoxin or serum may also be used to help in the diagnosis when patients have a rash resembling that of scarlet fever.

From the foregoing it appears that procedures for making the susceptibility test and immunizing against scarlet fever still have experimental aspects. Our knowledge of the matter is in the making and at present is far from complete. No license for the sale of scarlet fever streptococcus toxin in interstate commerce has yet been issued. Some of the manufacturing laboratories are experimenting with it and will supply the material free of charge to physicians who are willing to use it and report results. While reactions from the use of scarlet fever toxin in doses sufficient to induce lasting immunity may be slightly more marked than reactions from toxin-antitoxin used to protect against diphtheria, this does not appear to offer a serious hindrance to the procedure. Toxin for the Dick Test and for immunizing against scarlet fever is not supplied by the State Department of Health and is not yet on the market.

In summing up the present scarlet fever situation then, it appears that scarlet fever antitoxin or serum has been found effective for treatment in the acute stages of the disease. More rapid beneficial action is obtained in severe cases if the antitoxin be given intravenously. Where the case is less urgent, intramuscular injection may be made. The Dick Test is looked upon as a dependable test for susceptibility, though there are several things yet to be learned about it, including the exact amount of toxin to use in the test. Very much the same thing may be said in regard to immunizing against scarlet fever by means of scarlet fever toxin. Present knowledge will not warrant advising the routine use of immunizing procedure as in the case of diphtheria, but will fully justify using the procedure to control outbreaks.

INCIDENCE OF DISEASE FOR MONTH OF MAY, 1925

(as compared with previous years)

A comparison of the daily morbidity reports received during the month of May, 1925, with the corresponding month for the years 1920, 1921, 1922, 1923 and 1924.

Disease	Average 1920-1924 for May	Mean 1920-1924 for May	1920	1921	1922	1923	1924	1925
Cerebrospinal Meningitis ..	8	9	9	9	10	10	4	4
Diphtheria	181	178	245	178	152	226	125	103
Encephalitis Epdemic	6	6	8	5	6	6	4	6
Measles	1047	1035	1207	342	1664	1035	625	985
Poliomyelitis	1	1	......	1	3	1	1	1
Scarlet Fever	323	334	334	299	272	348	495	364
Smallpox	11	53	......	......	53	1	12	2
Typhoid Fever	22	19	22	45	11	12	15	19
Tuberculosis (pulmonary)	143	154	154	131	161	164	137	104
Whooping Cough	268	224	192	317	136	224	109	481

A comparison of the morbidity on these diseases for the two preceding months, March and April with the May record is as follows:

	March	April	May
Cerebrospinal Meningitis	3	4	4
Diphtheria	206	138	103
Encephalitis Epidemic	4	4	6
Measles	632	780	985
Poliomyelitis	......	3	1
Scarlet Fever	637	480	364
Smallpox	......	2	2
Typhoid Fever	12	11	19
Tuberculosis (pulmonary)	124	151	104
Whooping Cough	292	402	481

Cases of Other Reportable Diseases

Chickenpox	200	Septic Sore Throat	6
Conjunctivitis Infectious	27	Smallpox	2
Encephalitis Epidemic	6	Tetanus	1
German Measles	220	Typhus Fever	1
Influenza	22	Gonorrhoea	85
Mumps	85	Syphilis	109
Para-typhoid Fever	10		
Pneumonia (broncho)	76		850

Cases of Occupational Diseases

Acute Papular Eczema 1

Cases of Certain Reportable Diseases

May, 1925	Population Est. as of July 1, 1925	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Cerebrospinal Meningitis	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com Diseases
State Total	1,529,688	19	985	364	481	103	4	1	104	13	138	850
NEW HAVEN CO.	**459,157**	**10**	**401**	**75**	**212**	**23**	**3**		**33**	**6**	**43**	**259**
New Haven	178,735	6	300	32	150	3	1		19	5	8	124
Waterbury	102,134	1	9	20	5	15	1		6	1	6	23
Meriden (city and town)	36,251		3	10	11				1		12	25
Ansonia	19,034	2	1	3		1			1			3
West Haven	17,834		9	4	5						2	16
Naugatuck	16,350											1
Wallingford (town and boro)	12,483										4	1
Milford	13,473	1		1	5				1			1
Derby	12,500						1		2		3	8
Hamden	10,150		47	2	16						4	19
Branford (town and boro)	6,954		10		1	1					1	
Seymour	7,911											
Towns under 5,000	25,348		22	3	19	3			3		3	38
FAIRFIELD CO.	**363,740**	**4**	**49**	**150**	**48**	**26**		**1**	**24**	**2**	**32**	**117**
Bridgeport	166,644	1	46	55	6	21			16	1	17	41
Stamford (city and town)	46,218		2	14	13			1	2		1	15
Norwalk	29,596			1		2			1			10
Danbury (city and town)	21,931	1		1		1						
Greenwich (town and boro)	25,207	1		9	10						8	25
Stratford	16,085			3	1				2	1	1	6
Fairfield	14,490		1	4	12				1			
Shelton	11,134			30		1			1		1	1
Westport	5,597			4								1
Towns under 5,000	26,838	1		29	6	1			1		4	18
HARTFORD CO.	**384,608**	**4**	**125**	**80**	**60**	**42**			**35**	**3**	**43**	**237**
Hartford	160,199	1	17	23	33	26			28	1	12	116
New Britain	67,896	1	68	14		1			2	2	11	14
Bristol (city and town)	24,621	2	4	12	1	4			1		2	24
Manchester	21,018			13		2					6	9
Enfield	12,834		1	3		2			1		1	4
East Hartford	13,616		1	5	1				1			3
Southington(town and boro)	9,529		1	1	4	2						7
West Hartford	11,146		1	3	21	1					2	16
Windsor	6,436										1	
Glastonbury	6,042											
Wethersfield	5,018										1	2
Towns under 5,000	46,253		32	6		4			2		7	42
NEW LONDON CO.	**112,155**	**1**	**6**	**29**	**85**	**8**			**5**	**1**	**3**	**70**
Norwich (city and town)	30,425		1	5		6			1	1		1
New London	29,003			5	69				2			17
Stonington (town and boro)	10,819								1		2	6
Groton (town and boro)	10,764	1		3	7	1					1	5
Towns under 5,000	31,144		5	16	9	1			1			41
LITCHFIELD CO.	**79,851**		**1**	**5**	**17**				**1**		**2**	**36**
Torrington (town and boro)	24,492								1			
Winchester (inc. Winsted)	9,129											
Plymouth	6,349			2							1	5
Watertown	7,192											1
Towns under 5,000	32,689		1	3	17						1	30
WINDAHAM CO.	**55,360**		**3**	**10**	**1**	**2**	**1**		**1**	**1**	**6**	**35**
Windham (inc. Willimantic)	14,368										3	2
Putnam (city and town)	8,990		1	7	1						1	1
Plainfield	8,570					2						
Thompson	5,196		1								1	1
Killingly (inc. Danielson)	9,051		1	1			1		1	1		2
Towns under 5,000	9,185			2							1	29
MIDDLESEX CO.	**47,152**		**398**	**7**	**58**	**1**			**4**		**8**	**71**
Middletown State Hospital									4			1
Middletown (city and town)	22,649		294		41						5	51
Towns under 5,000	24,503		104	7	17	1					3	19
TOLLAND CO.	**27,665**		**2**	**8**		**1**			**1**		**1**	**25**
Vernon (inc. Rockville)	8,822								1			
Stafford (town and boro)	5,457			3								2
Towns under 5,000	13,386		2	5		1					1	23

(For cases of other reportable diseases, see page 109)

Venereal Diseases

VENEREAL DISEASE CONTROL PAYS

The interest shown in "Everybody's Problem," published as a supplement to the April issue of the Monthly Health Bulletin suggests a word concerning the venereal disease problem in Connecticut.

For a number of years past the Connecticut State Department of Health has been aware of the prevalence of these diseases and the ravages which they inflict upon the people. Confronted with the facts efforts have been made to control the incidence of gonorrhoea and syphilis within our borders.

Prevalence in Institutions

The prevalence and end results of these diseases may be seen in the reports as received in a recent survey of the state institutions. When we consider that in the Norwich State Hospital for the Insane for the years 1921 to 1924 inclusive, there were 1127 new patients admitted, that the average cost per patient was $4.38 per week, that 15 percent are infected with syphilis and that syphilis is the cause in all cases of general paresis, we can readily understand the value of eradicating this disease.

In the Connecticut State Hospital for the Insane for the years 1921 to 1924 inclusive, there were 1228 patients admitted and 15 per cent of these were found to be infected with syphilis. The total expenditure of the Connecticut State Hospital at Middletown during that same period amounted to about $3,000,000. *Should we not endeavor to eliminate the preventable 15 percent?*

That syphilis is the cause, to some extent, of feeblemindedness is realized by the authorities at the Mansfield State Training School and Hospital. During the past few years so much interest has been demonstrated in this institution, that there were 635 Wassermann tests performed on the inmates, and of this number, some thirteen were found to be positive for syphilis. A study of the above figures will show that syphilis is indeed an important causative factor of insanity.

Blindness

From the State Board of Education of the Blind, we are informed that during the present year, Connecticut is paying

the board and tuition at schools and other institutions of learning of eleven persons who cannot see as the result of opthalmia neonatorum. This is a gonorrhoeal infection of the eyes acquired at birth. The total cost of these eleven cases has been more than $5000 for the year.

In going back over the records of this board for twenty-five years, ten persons were selected at random who were blind from opthalmia neonatorum. The total amount expended for educational purposes on these ten persons has been $50,500, the amount expended on each varying from $4200 to $5700. An average of fourteen years is necessary to educate such a group.

Thanks to the early recognition of gonorrhoea as the cause of opthalmia neonatorum and the institution of preventive measures which are required by law to be used at every birth, the number of persons made blind by this disease is slowly decreasing.

Those who have worked much with the blind can say that acquired syphilis is one of the causes of considerable blindness in the early and middle years of adult life, while hereditary syphilis is one of the chief factors in causing blindness in infancy and early childhood. Probably it would be safe to say that syphilis is a contributing cause in 15 to 20 per cent of all cases of blindness, and that gonorrhoea is the cause in 5 to 10 per cent.

Stillbirths

Accurate figures of miscarriages or abortions which occur during the course of the year in the State of Connecticut cannot be given as such cases are not reported. It is an accepted fact however, that syphilis plays an important part as a cause of this condition. It is safe to say that diagnosis of syphilis may be made where there is a history of several miscarriages and no other perceivable cause present. Syphilis is also one of the causes of stillbirths. Authorities differ as to the percentage of stillbirths which are due to syphilis but they range from 5 to 20 per cent according to the part of the country in which the statistics are collected. In the State of Connecticut, the following table presents the number of stillbirths during the past ten years:

1915	—	1249	1920	—	1217
1916	—	1306	1921	—	1232
1917	—	1238	1922	—	1114
1918	—	1513	1923	—	1136
1919	—	1265	1924	—	1102

A Paying Investment

Does venereal disease control pay? When the tax payer is burdened as he is today, when industry groans under the

charges it must bear, have we the right to demand continued expenditure for this purpose? At the present time the country is going through a period of economic readjustment. All public officials and local governing bodies are practicing economy. Therefore, unless we can show positively that results may be obtained by the control of venereal diseases, it does not pay. However, there are several angles from which to view the situation.

Recently officials of a certain railroad were baffled in their search for the cause of four accidents. After every possible cause had been considered it was found that in each case the person responsible suffered from temporary insanity due to the result of syphilis. The potential danger to the public of an engineer infected with the disease can not be overlooked. If we consider that 35,000 individuals are killed and 700,000 injured in the industries of the United States every year, and that if only a small proportion of these accidents is the result of syphilis or gonorrhoea, eradication of these two diseases would pay.

By the introduction of venereal control measures many individuals would be saved from infection. Others who are infected would be relieved from the consequences of ineffective treatment.

The control of venereal disease is then not merely the prevention of individual suffering. It protects innocent women and children and contributes immeasurably to the happiness and welfare of mankind. In addition, the control of these diseases will pay from a dollar and cents point of view. It will eliminate a cause of waste in industry due to time lost by the individual worker as well as his personal loss in wages and earning capacity. The care of those infected with venereal diseases, especially those in the later stages of syphilis is a heavy burden that must not be neglected, but on the other hand need not exist. Knowing the manner in which these diseases are spread and the medical measures, which in most cases will insure a cure, surely there should be no obstacle to their complete elimination.

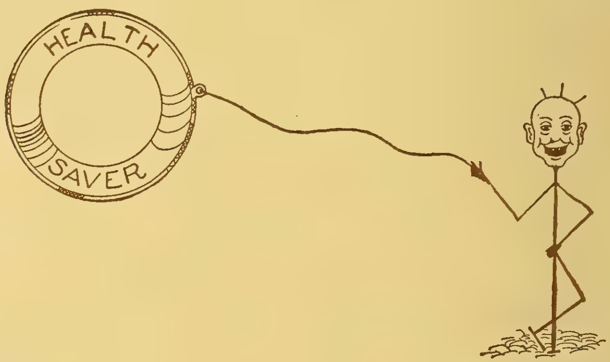
Methods Used

Presented with these facts, the Connecticut State Department of Health in cooperation with local health officers and physicians has instituted *six clinics and sixteen stations in different parts of the state.* In these treatment stations, patients suffering from venereal diseases and unable to employ the services of a private physician may receive expert attention and medical treatment without charge.

Thousands of people throughout the state are acquainted

with these diseases through pamphlets distributed, or by attendance at lectures delivered by members of this division, and by motion pictures. A field worker is also engaged in assisting local clinics and following up those patients who are negligent about their treatment.

The results of these endeavors have shown conclusively that venereal disease control pays not only from a public health viewpoint but on a dollar and cents basis. This work should not only continue but expand in its activities so that one day each individual community will demonstrate an intense interest in the work.



Syphilis and gonnorrhoea take too high a toll of human life and suffering.

Ignorance of these diseases, and secretiveness as to their prevalence and character are the greatest hindrances to their control.

Be informed, and allign yourself with community activities which are already marking progress.

Vital Statistics

MONTH OF APRIL, 1925

Births

The births registered for April totalled 2286, a decrease of 276 when compared with the 2562 reported in 1924. The average number of births for the five year period 1920-1924 is 2651 and it appears that the month is 365 in defect. The birth rate of 17.9 per 1000 population is the lowest to appear in the past six years.

Of the forty-seven towns having populations of 5000 or more 20 reported more births than in 1924. Of these 20 only two report increases of 10 or more, Hartford, with an increase of 26 and New Britain with an increase of 24. For the first four months of the year the total births reported number 9256 as compared with 10538 for 1924, a decrease of 1282.

During the month 99 stillbirths occurred or 4.1 per cent of the total births. A year ago the corresponding figures were 89 stillbirths or 3.3 per cent of the total births. If these rates are expressed per 1000 births, including stillbirths, and their chance fluctuations be calculated, there results, for 1925, a rate of 41 ± 4.5 and for 1924 a rate of 33 ± 3.5. From this it will be observed that the fluctuation due to sampling is about what might be expected for 1925.

Deaths

Reports of 1628 deaths were received for April, an increase of 112 over the 1516 reported in 1924. The death rates are 12.8 for 1925 and 12.1 for 1924. The average number of deaths for the period 1920—1924 is 1556 and therefore 1925 is 72 above the mean which is itself susceptible to a chance fluctuation of 42, making the deviation of 72 statistically insignificant.

The accumulated deaths for the first four months of 1925 are 6479 and for 1924 the figures are 6439 an increase of 40. As a chance fluctuation of 80 odd might be statistically expected it is apparent that the variation of 40 is well within the limits set by random sampling.

Below is given an analysis of the deaths for the month for certain causes tabulated to exhibit the increase or decrease for 1925 and 1924.

Deaths.

CAUSE OF DEATH	1925	1924	INCREASE	DECREASE
Diseases of Heart	214	205	9	......
Epidemic Encephalitis	2	2	......	......
Pneumonia Undefined	1	2	......	1
Typhoid Fever	4	......	4	......
Measles	3	8	......	5
Scarlet Fever	5	11	......	6
Whooping Cough	12	5	7	......
Diphtheria	15	19	......	4
Influenza	71	45	26	......
Tuberculosis, Pulmonary	99	86	13	......
Tuberculosis, Other forms	13	18	......	5
Cancer	131	123	8	......
Cerebrospinal Meningitis	3	2	1	......
Poliomyelitis	......	......	......	......
Lobar Pneumonia	96	64	32	......
Broncho Pneumonia	81	80	1	......
Diarrhoea and Enteritis, Under 2	12	8	4	......
Puerperal Diseases	11	15	......	4
Accident	91	94	......	3
Suicide	13	19	......	6
Homicide	7	2	5	......
Other Causes	744	708	36	......
Totals	1628	1516	146	34

Of the deaths due to accident, 37 were caused by automobiles as compared with 33 for 1924. Here a variation of about 6 deaths might be expected to result from pure chance alone. Evidently mere chance is not going to eliminate this cause of death. Were the same number of deaths to occur in each month for the year the death rate would reach the astonishing total of 29.0 per 100,000 population, a death rate **greater** than the combined causes of Typhoid Fever, Diphtheria, Scarlet Fever, Measles and Whooping Cough.

The infant deaths numbered 199, an increase of 34 over the 165 reported in 1924.

Marriages

Reports of 921 marriages were received, 38 less than the 959 reported for 1924 a fluctuation entirely comparable to what might be expected to arise from pure chance. The average number of marriages for the month is 1097 making 1925, 176 below the mean. For the first four months of 1925 there have been reported 2917 marriages, 375 less than the total of 3292 reported for the same period of 1924.

For Six Years—April, 1920-1925

CONNECTICUT	1920	1921	1922	1923	1924	1925
BIRTHS *Birth Rate*	2742 23.6	2956 25.0	2435 20.2	2562 20.8	2562 20.5	2286 17.9
DEATHS *Death Rate*	1579 13.6	1416 12.0	1564 13.0	1704 13.9	1516 12.1	1628 12.8
MARRIAGES *Marriage Rate*	1313 11.3	1117 9.4	929 7.6	1166 9.4	959 7.7	921 7.2
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	267 16.9	203 14.3	224 14.3	238 14.0	180 11.9	212 13.0
DEATHS UNDER 1 YEAR *Rate per 1000 births*	244 85.7	213 75.0	238 91.3	266 104.0	165 62.5	199 78.0

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

Towns not Reporting, April 1925

Births

Bethel
Bethlehem
Chaplin
Cornwall
East Granby
Franklin
Lebanon
Lyme
Milford
Orange
Plainville
Sharon
Somers
Washington
Woodbridge

Marriages

Bethlehem
Cornwall
Durham
East Granby
Franklin
Lyme
Milford
Plainville
Sharon

Deaths

Cornwall
East Granby
Franklin
Milford
Plainville
Sharon

Births, Marriages and Deaths

April, 1925 Statistics	Est. as of July 1, 1925 Based on U. S. Census Population	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Still Births	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,529,688	2286	99	921	1628	12.8	0.8	78.0	199	114	557
Ansonia	19,034	17	1	13	8	5.0	1.9	....	....	1	4
Branford	6,954	14	1	4	6	10.4	3.5	103.4	1	....	2
Bridgeport	166,644	214	16	88	129	9.3	0.7	51.3	14	7	41
Bristol	24,621	52	1	12	26	12.7	0.5	99.5	5	....	8
Danbury	21,931	40	2	19	40	21.9	1.1	162.5	7	2	13
Derby	12,500	31	1	10	28	26.9	1.9	136.3	5	1	5
East Hartford	13,616	9	....	7	11	9.7	1.8	80.5	1	....	3
Enfield	12,834	23	....	20	10	9.4	....	40.5	1	2	....
Fairfield	14,490	12	....	4	7	5.8	....	164.3	3	....	2
Glastonbury	6,042	6	....	5	5	9.9	2.0	155.8	1	....	2
Greenwich	25,207	31	1	77	20	9.5	0.5	50.4	2	1	3
Groton	10,764	4	....	6	4	4.5	....	....	....	....	3
Hamden	10,150	17	....	5	10	11.8	2.4	122.4	2	....	5
Hartford	160,199	323	22	94	197	14.8	0.9	86.1	29	12	55
Killingly	9,051	12	1	7	13	17.2	....	....	....	....	8
Manchester	21,018	32	3	9	22	12.6	1.1	78.8	3	....	10
Meriden	36,251	59	3	22	50	16.6	1.7	103.2	6	4	14
Middletown	22,649	39	....	....	52	27.6	0.5	40.1	2	1	24
Milford	13,473	....	....	....	....	....	....	....	....	....	....
Naugatuck	16,350	12	....	10	8	5.9	0.7	....	....	....	4
New Britain	67,896	147	4	41	60	10.6	0.5	116.6	16	3	12
New Haven	178,735	304	6	146	190	12.8	0.7	62.7	21	54	47
New London	29,003	61	5	16	49	20.3	0.8	92.7	6	1	20
Norwalk	29,596	46	1	18	32	13.0	....	51.1	3	2	10
Norwich	30,425	60	1	18	43	17.0	....	101.6	7	1	13
Plainfield	8,570	10	1	5	10	14.0	....	604.3	7	....	2
Plymouth	6,349	12	1	4	7	13.2	1.9	....	....	....	3
Putnam	8,990	15	....	8	8	10.7	....	52.4	1	1	4
Seymour	7,911	5	....	3	6	9.1	3.0	187.5	2	1	1
Shelton	11,134	14	1	3	14	15.1	1.0	....	....	2	3
Southington	9,529	16	1	7	7	8.8	....	64.9	1	1	2
Stafford	5,457	17	....	1	4	8.8	....	62.8	1	....	1
Stamford	46,218	74	1	35	50	13.0	0.5	81.6	8	1	15
Stonington	10,819	19	1	3	18	19.9	1.1	....	....	1	7
Stratford	16,085	16	....	....	10	7.5	0.7	51.5	1	....	5
Thompson	5,196	8	....	4	5	11.5	....	95.2	1	....	3
Torrington	24,492	38	1	16	16	7.8	0.5	22.6	1	1	7
Vernon	8,822	21	....	6	5	6.8	1.4	96.0	1	....	2
Wallingford	12,483	11	1	3	6	5.8	1.0	....	....	....	4
Waterbury	102,134	187	14	56	88	10.3	0.6	64.3	13	3	20
Watertown	7,192	7	....	1	3	5.0	....	....	....	....	2
West Hartford	11,146	13	....	5	19	20.5	....	314.1	5	1	5
West Haven	17,834	37	1	6	17	11.4	1.3	....	....	....	9
Westport	5,597	2	....	1	2	4.3	....	....	....	....	2
Winchester	9,129	15	....	3	12	15.8	....	53.6	1	1	5
Windham	14,368	26	....	11	19	15.9	....	....	....	....	11
Windsor	6,436	6	....	2	9	16.8	....	122.4	1	3	4
Towns under 5,000	209,346	152	7	87	273	15.6	0.7	79.4	20	6	132

for the Month of March, 1925

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
214	2	1	4	3	5	12	15	71	99	13	131	3	......	96	81	12	11	91	13	7	602	265
2					1				2					1								
									2					1								1
16								8	7	1	10			13	6		3	9	1	1	62	11
6			1				1	1	1		1				1	1		2			9	
3								1	1		3			4	3	1		2	1	1	16	8
4								2	1		1			2	1			1			13	9
4							1		2					2								
1						1		2		1							1					
4						1										1						1
									1						2					1	1	1
3												1		1			1		1	1	10	3
1											1							1				
2						1			1		1							2				3
26						3	5	9	6	3	16	2		7	20	2	1	15		2	112	52
4								1			2				1			1			1	1
3									2		3			3				1			9	4
5				1		1		3	6		2			1	2			6	1		18	5
6								1	5		3			4	5			1			37	26
1									1		1				1							
4		1		1			1	1	2	1	7			6	1	1	1	2	1		22	3
21			1	1	1			10	10	2	20			16	9		2	11	1		85	17
7						1		4	2	1	4			2	3		2	2			25	11
6						1	1	1			3			1				2			9	3
3						1		1	7	1	5			4					1	1	16	9
											1			2	1							
1	1		1						1						1							
2								1						1	1			1			3	1
1					1				2							1						
1								2	6		2			2							6	7
1											1					2		1				
														1	1						1	
5								3	1		6				3			2	1		18	4
3								4	1		3											
3											2				1	1						1
								1										1				
1								2	1		1			2				2			6	2
2															1						1	1
1											1			1							3	
8	1						2	2	3		6			5	2	2		6	1		33	3
1																						
2						1		1			2			2				1	2		9	6
4									6												5	5
1							1			1								4			8	1
2							1				2										8	1
														3								1
43			1		2	1	1	10	19	2	21			9	15			15	2		56	64

SUMMER CAMPS IN CONNECTICUT

Connecticut abounds in beautiful ponds and sparkling streams and a large portion of its area consists of rugged hilly country and woodland. These attributes have made it an ideal camping ground and the number of summer camps is increasing each year. Each camp is really a summer community and as such, its water supply, sewage disposal and other sanitary features deserve serious consideration. Persons who patronize these camps do so with the same assurance everything is all right as when they drink water from a public water supply.

In an effort to improve conditions at these camps, the State Department of Health has during the past year made a fairly comprehensive survey. Questionnaires were used for each camp, covering camp location, sleeping quarters, water supply, kitchen and mess room, wastes disposal and general sanitary conditions. Recommendations were issued in all instances where insanitary conditions or practices were found.

Following is a summary of camp inspections during 1924:

Number	inspected	104
"	reinspected	65
"	receiving recommendations	55
"	complying with recommendations at the time of reinspection	26
"	of samples of water collected for analysis..	35
"	of legal notices sent	4

On August 1, 1924, rules and regulations governing camp ground sanitation became effective, as part of the state sanitary code adopted by the Public Health Council of the State Department of Health. A discussion of the regulations follows:

Definition

"No city, town, borough, institution, person, firm or corporation shall operate, maintain, or offer for use, or permit to be used, within the state of Connecticut any tract of land on which persons may camp except after full and literal compliance with the following regulations."

This definition is such as to include all of the profit and non-profit camps in the state.

Water Supply

1. "A water supply of sanitary quality shall be provided in ample quantity to meet all requirements of the maximum number of persons using such a tract at any time. Said water supply shall be easily

obtainable from its source or from a distributing system within a distance of not more than 300 feet of any camping spot within such tract."

2. "Any water found unsafe for human consumption on such tract of land shall be either eliminated or purified, or shall be kept posted with placards definitely warning persons against its use."

The inspections showed that many of the water supplies used by the camps were of unsafe character. Some camps obtained their water supply from running streams without storage or other form of purification.

Wells were probably the most numerous sources of supply. These were for the most part driven wells in porous soil or shallow dug wells. In a few cases, deep wells drilled into rock were used. Some of the wells were poorly located and many more were poorly constructed. Covering and curbing were needed to prevent pollution by surface wash or waste water. There is a surprising number of so-called bucket and chain wells which present excellent opportunities for contamination of the bucket or chain by unclean hands. Sometimes, the bucket is allowed to rest on the ground when not in use. Pumps were ordered to replace the bucket and chain where found.

Springs furnished drinking water to many camps. While the majority of these springs were from unpolluted sources, many of them were uncovered and unprotected. Instead of providing a tight cover and an overflow supply pipe, utensils of all descriptions were dipped into the water.

At least one camp employed the common drinking cup, although its use is forbidden by law.

Disposal of Excreta

3. "Fly-tight privies or water-flushed toilets with a system of sewage disposal approved by the State Department of Health shall be provided and shall be maintained in a clean and sanitary condition. Separate toilets for men and women shall be provided, one toilet seat for each 25 men, and one for each 25 women, or fraction thereof, of the maximum number of persons occupying such tract at any time. No camp within such tract shall be at a greater distance than 400 feet from both men's and women's toilet. The location of all toilets shall be plainly indicated by signs."

Latrines and privies are the most common methods of disposal and the principal criticism was that these structures should be fly-tight.

In some camps, water carriage systems of disposal are in use and it has been necessary to pass upon a number of plans for such systems this year. One or two cases have arisen where the installation of a water carriage system of disposal without pollution of the bathing beach is impractical, owing to the location of the camp. It is better in such cases to continue the use of dry toilets.

Disposal of Refuse

4. "Supervision and equipment sufficient to prevent littering of the ground with rubbish, garbage or other refuse shall be provided and maintained. Fly-tight depositories for such material shall be provided and conspicuously located. Every camp on said tract shall be within a distance of not over 200 feet of such depository. These depositories shall not be permitted to become foul smelling or unsightly or breeding places for flies."

Sanitary garbage disposal is important in order to prevent breeding places for flies and rats. The methods of disposal followed were: burying, burning and feeding to hogs. It is important that no nuisance be caused by insanitary refuse disposal and this is covered by section 5 of the rules and regulations which reads as follows:

5. "The method of final sewage or refuse disposal utilized in connection with the operation of a camp shall be such as to create no nuisance."

Responsibility of Management and other Procedure

6. "The management of every camp shall assume responsibilty for maintaining in good repair all sanitary appliances on said ground and shall promptly prosecute or eject from such ground any person who wilfully or maliciously damages such appliances, or any person who in any way fails to comply with these regulations."

7. "Failure to comply with the foregoing regulations shall be deemed sufficient cause for declaring the premises a nuisance under the provisions of the law."

8. "These regulations shall be printed and kept posted in a conspicuous place in any such camp by the management of such ground."

Location of a New Camp

In addition to the correction of conditions already existing, the issuance of these regulations should be of value in reminding prospective camp operators of the factors to be considered before a site is chosen.

The location of a new camp should not be determined until it is assured that a safe water supply can be obtained. Proper provision for wastes disposal is important and careful consideration should be given to this matter so that no pollution of the drinking water supply or bathing place will result. A contaminated bathing place is, of course, to be avoided.

The site for the camp should be removed from low areas with stagnant pools which are likely to breed mosquitoes. If such areas exist, they should be drained or treated to eliminate mosquito-breeding.

Summary

Two inspectors are employed in the State Department of Health for the summer of 1925. Their duties will be to inspect summer camps, summer boarding houses, wayside eating places and shore resorts in cooperation with the local health officers as they did last year.

It is found that camp owners are usually cooperative and desirous of maintaining proper sanitary facilities. Owners of profit camps are naturally anxious to present a camp which will appeal to the public as a fit place to live in. Non-profit camps are operated mainly by national, state or municipal governing bodies with strict sanitary laws.

In some cases, however, the local directors either carelessly or unknowingly permit insanitary practices which have to be called to their attention. Occasionally a director advances the excuse for poor conditions that the camp is operated for only two weeks or some such short period. It is obvious that if a camp cannot be maintained in good condition for those two weeks, it had better not be operated at all.

Properly operated summer camps are a great health asset in that children and adults living in the city during most of the year are given a wonderful opportunity to derive the benefits of outdoor life. Camps maintained in poor sanitary condition are a health menace.

The State Department of Health is endeavoring by a campaign of education, supervision and co-operation with local health officers to raise the standards of summer camps in Connecticut to the plane which a considerable number already occupy, so that the public health will not be endangered. Much has been accomplished in 1924 and it is hoped that 1925 will be marked by still greater strides.

Laboratories

REPORT OF THE BUREAU OF LABORATORIES FOR MAY, 1925

DIAGNOSTIC

	+	—	?	Total
Typhoid				
Blood for Widal	6	28	....	34
Blood cultures	....	1	....	1
Feces	1	55	....	56
Urine	....	36	....	36
Paratyphoid A				
Blood for Widal	....	34	....	34
Blood cultures	....	1	....	1
Feces	....	56	....	56
Urine	....	36	....	36
Paratyphoid B				
Blood for Widal	....	32	2	34
Blood cultures	....	1	....	1
Feces	11	45	....	56
Urine	8	28	....	36
Diphtheria Cultures				
Diagnosis	74	393	....	467
Release	30	138	....	168
Diphtheria Carriers				
Diagnosis	60	396	....	456
Release	14	64	....	78
Diphtheria Virulence	6	12	....	18
Vincent's Angina	1	460	....	461
Haemolytic Streptococci	6	454	....	460
Tuberculosis				
Sputum preparations	26	116	....	142
Blood	....	1	....	1
Pus from ankle	....	1	....	1
Syphilis	172	1307	121	1600
Colloidal Gold Test for Spinal Fluids	5	23	....	28
Gonorrhoea	16	92	....	108
Rabies	1	3	....	4
Feces				
Dysentery and worms	....	1	....	1
Ova	....	1	....	1
Special specimens	1	......	....	1

4376

CHEMICAL AND BACTERIOLOGICAL

Towns sending milk samples	14		
Milk samples tested		204	
Milk samples below fat standard	19		
Towns sending water samples	117		
Water samples tested		405	
Clinical thermometer examinations			
For permits to seal		6	
For certification		196	811
Total number of examinations made			5187

State of Connecticut Health Bulletin

"*For a Clean State and a Healthy People*"

Vol. 39 July, 1925 No. 7

This Issue Contains 1925 Laws on

STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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HARTFORD

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CONNECTICUT STATE DEPARTMENT OF HEALTH
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CONNECTICUT

HEALTH BULLETIN

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STATE DEPARTMENT OF HEALTH

SUBSTITUTE FOR SENATE BILL NO. 121.

CHAPTER 161

AN ACT ESTABLISHING A STATE BOARD OF HEALING ARTS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. The governor shall appoint, on or before July 1, 1925, a state board of healing arts consisting of three members, one of whom shall serve for two years, one for four years and one for six years from July 1, 1925. Upon the expiration of the term of any member of said board, the governor shall appoint his successor who shall serve for six years. If any member of the board shall die, resign or become incapacitated, the vacancy thus created shall be filled by appointment by the governor for the unexpired portion of the term. No person shall act as a member of said board who shall have received, from any school, college or department of a university teaching any branch of the healing arts, a degree in any of said healing arts or who shall be a trustee, director, officer or employee of any hospital. The members of the board shall receive no compensation for their services, but their reasonable expenses in the performance of their duties shall be paid by the comptroller.

Sec. 2. For the purposes of this act the practice of the healing arts shall be understood to be the practice of medicine, osteopathy, chiropractic and natureopathy as defined in chapters 148, 149 and 150 of the general statutes and chapter 245 of the public acts of 1923 and all amendments thereto.

Sec. 3. Any person desiring to take an examination to be admitted to practice any branch of the healing arts who shall submit to said board of healing arts evidence satisfactory to said board that he is a person of good moral character, that he was a graduate of a high school or that he possessed educational qualifications equivalent to those required for graduation by a high school before he began the study of the healing arts and that he has, as shown by written examination

by said board, a comprehensive knowledge of anatomy, physiology, hygiene, pathology and diagnosis, upon payment of a fee of five dollars, shall receive from said board a certificate which shall be prerequisite to examination by the Connecticut medical examining board, the Connecticut homeopathic medical examining board, the Connecticut eclectic medical examining board, the state board of osteopathic registration and examination, the state board of chiropractic examiners or the state board of natureopathic examiners.

Sec. 4. Any person whose application for said certificate shall be denied by said board of healing arts may, within thirty days thereafter, appeal to the superior court for Hartford county, and said court shall, upon such appeal, inquire into the cause of such denial and may confirm or revoke such decision or may order said board to grant such appellant a certificate. Notice of such appeal shall be served upon any member of said board by leaving with such member or at his usual place of abode an attested copy thereof within thirty days after said board shall have notified such applicant of its decision.

Sec. 5. No provision of section three or section four hereof shall be construed as repealing any statutory provision with reference to the requirements for admission of applicants to examination by any of the examining boards herein enumerated.

Sec. 6. Said board shall adopt such rules and regulations governing its examinations as it shall deem advisable.

Sec. 7. Said board shall make an annual report to the governor on or before the thirtieth day of June and shall, on or before the thirtieth day of June and on or before the thirty-first day of December, in each year, pay to the state treasurer the money received by it as license fees under the provisions of this act.

Sec. 8. Said board shall act as a grievance committee to hear complaints which may be brought before it against any person practicing any of the healing arts. After hearing upon any such complaint, reasonable notice of which hearing shall have been given to the person so complained of, said committee shall present a statement of the charges contained in such complaint to the attorney general, if it shall deem it advisable or shall find probable cause therefor, and the attorney general shall thereupon bring an action based on such charges in the superior court for the county in which such person shall reside, and said court may order the revocation of the license of such person or take such other action as it may deem equitable.

Senate Bill No. 604.

CHAPTER 267

AN ACT AMENDING AN ACT CONCERNING CERTIFICATES OF REGISTRATION FOR THE PRACTICE OF MEDICINE.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Section 2855 of the general statutes is amended to read as follows: No person shall receive a certificate of registration under the provisions of section 2854 of the general statutes until he shall have passed an examination before one of the examining committees appointed for such purpose by the state department of health, except as hereinafter provided, until he shall have filed with said department duplicate certificates

signed by a majority of the examining committee, which certificates shall include a statement that the person named therein has been examined and found qualified to practice either medicine or surgery, nor until he shall have filed with said department duplicate statements subscribed and sworn to by such person, which shall be made upon blanks furnished by said department and shall include the name, age, place of birth and residence, the medical college of which he is a graduate and the date of graduation of such person, with such other information as shall be required upon such blanks. No person shall be eligible to take such examination until the committee shall find that such person has received a diploma from some legally incorporated and reputable medical college as provided in section 2857 of the general statutes, nor until he shall have presented to said committee a certificate of good moral character signed by two reputable citizens of this state, nor until said committee shall find that, before beginning the study of medicine, such person was graduated from a college, high school or preparatory school, the standing of which shall have been approved by said committee, or that his education is equivalent thereto, or that it shall have been a condition of entrance to the medical college from which such person shall have received a diploma that students in such college shall have received a high school education or the equivalent thereof. No person shall be eligible for such examination under the provisions of the general statutes until said committee shall find, in addition to the foregoing provisions, that, before beginning the study of medicine, such person shall have completed a course of study of at least nine months' duration, which shall have included chemistry, physics and general biology, provided this provision shall not apply to any applicant who shall have been graduated from a recognized medical college prior to January 1, 1919, nor to any person who was eligible to examination before said date and who shall have failed to pass such examination. Any one of the examining committees appointed under the provisions of section 2856 of the general statutes may accept the license of any state board of medical examiners of any state in the United States or in the District of Columbia, or the certificate of the national board of medical examiners, in lieu of the examination herein provided for, provided the committee before which such applicant shall appear shall find that such license shall have been issued upon examination passed by such applicant of as high a grade and of the same kind as that required by said examining committee, that he is a resident of this state or that he intends in good faith to permanently reside herein, that he has been in actual practice or has served as an interne in a hospital approved by the committee for a period of at least one year during the two years immediately preceding the date of his application, and that he is of good moral character and professional standing, and, upon receipt of the sum of fifteen dollars, said committee may issue to such applicant a certificate of the approval of such license. Any physician who shall have been graduated from any incorporated and reputable medical college and who began the practice of medicine outside of this state prior to May 25, 1893, who shall appear before any one of the examining committees appointed under the provisions of section 2856 of the general statutes and whom such committee shall find to be a resident of this state or intending in good faith to permanently reside herein, and to have been in actual practice for a period of at least six months in the year immediately preceding the date of his application, and to be of good moral character and professional standing, and to have received the approval of the state board of medical examiners of the state in which he shall have resided next preceding his application to the committee of this state, may, upon the payment of the sum of fifteen dollars, receive a certificate of approval without examination. Any person who shall have passed the examination required under the provisions of the general statutes or shall have obtained a certificate of approval shall, upon filing such certificates and statements with the state department of health, receive from said

department, upon the payment of two dollars, a certificate of registration, which certificate shall include a statement that the person named therein is qualified to practice medicine or surgery. Each of the examining committees provided for under the general statutes shall file with the state department of health, within thirty days after the close of each examination, a list of applicants examined by it since the last preceding examination, and such list shall state the names of such applicants as shall have failed to pass such examination.

Sec. 2. The terms of all members of the examining boards provided for in chapters 148, 149 and 150 of the general statutes and chapter 245 of the public acts of 1923 shall expire July 1, 1925, and on or before said date, the governor shall appoint the successors of the members of said boards for the unexpired portions of their respective terms. In making such appointments the governor shall not be limited to any list of names which shall have been submitted under the provisions of said chapters, provided the successors of the members of said boards whose terms of office are terminated by the provisions of this section shall be appointed, respectively, from such medical societies or branches of the healing arts as were the members of such boards whose terms of office are terminated hereby; and thereafter appointments to membership on such boards shall be made by the governor as provided herein for the filling of vacancies hereby created. Any portion of said chapters inconsistent with any provision of this act are repealed.

SUBSTITUTE FOR HOUSE BILL NO. 292.

CHAPTER 251

AN ACT AMENDING AN ACT CONCERNING OSTEOPATHY.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Section 2865 of the general statutes is amended to read as follows: No person shall engage in the practice of osteopathy until such person shall have obtained a license from the board of osteopathic registration and examination. All applications for such license shall be in writing signed by the applicant and upon blanks furnished by said board, which shall set forth such facts concerning the applicant as said board shall require. No person shall be eligible to examination until he shall present to the board by which he is to be examined satisfactory evidence that he has received a diploma or certificate of graduation from some reputable college of osteopathy recognized by the laws of the state wherein the same is situated, which college shall have a course of instruction which shall require four college years of thirty-six weeks each. No person shall be eligible to examination under the provisions of this act until he shall, in addition to the foregoing requirements, present to said board a certificate of good moral character signed by two reputable citizens of this state, and also satisfactory evidence that before beginning the study of osteopathy he was graduated from a college, high school or preparatory school whose standing shall be approved by said board, or that his preliminary education is equivalent thereto, or that it was a condition of entrance to the college of osteopathy from which he received such diploma or certificate of graduation that all students should have received a high school education or the equivalent thereof. In lieu of such high school education and as the equivalent thereof, any applicant may present a qualifying academic certificate issued by the secretary of the state board of

education, certifying that the person to whom the same shall be issued has had the preliminary prerequisite academic education required for admission to such examination. The foregoing provisions, preliminary to and including such examination, shall not apply to any applicant who shall have been actually engaged in the practice of osteopathy in this state on June 17, 1901, but such person shall be entitled to receive such license upon making application as herein provided and upon paying a fee of two dollars therefor. Any person who shall desire to commence the practice of osteopathy in this state shall make application to said board as provided in this act. Upon receipt of such application, said board shall require the applicant to submit to an examination as to his qualifications for such practice, which examination shall include the subjects of anatomy, physiology, pathology, gynecology, obstetrics, chemistry, toxicology, hygiene, public health, dietetics and the principles and practice of osteopathy and such other branches as are deemed advisable by said board and are taught in schools of osteopathy recognized by said board. If such examination shall be passed to the satisfaction of the board, it shall issue a license to such applicant. A license may be granted without such examination to any person who has been in active and continous practice of osteopathy for three successive years in any other state, who at the time of his graduation had completed the course of study required by the associated colleges of osteopathy and shall satisfy the board as to his fitness to engage in such practice. Said board shall have the power to enter into agreements of reciprocity with boards of osteopathic registration and examination of other states whose requirements shall be substantially equal to those of this state.

Sec. 2. The license provided for in section 2865 of the general statutes shall not authorize the holder thereof to perform surgical operations unless he shall pass a satisfactory examination in surgery before the Connecticut medical examining board, to which examination his license under the provisions of this act privileges him, provided he shall meet all requirements as to length of service in hospitals or other requirements which may be especially demanded of applicants to practice surgery.

Substitute for Senate Bill No. 508.

CHAPTER 218

AN ACT AMENDING AN ACT CONCERNING NATUREOPATHY.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section three of chapter 245 of the public acts of 1923 is amended to read as follows: Any person desiring to practice natureopathy shall make application to the board of natureopathic examiners through the secretary thereof, upon such form as it shall adopt, at least fifteen days prior to any meeting of said board. Each applicant shall be a graduate of a high school or the equivalent thereof and of a school or college of natureopathy, approved by said board, which school shall require of such applicant a course of resident instruction of at least four years, and each year shall consist of thirty-six weeks of actual attendance. Applications shall be in writing upon blanks furnished by said board, setting forth such facts concerning the applicant as said board shall require and shall

be signed by the applicant and sworn to before an officer authorized to administer oaths. There shall be paid to the treasurer of said board by such applicant a fee of twenty-five dollars, ten dollars of which shall accompany the application and shall not be refunded if such applicant shall fail to pass the examination, and the balance of such fee shall be paid upon issuance of a license.

SENATE BILL NO. 509.

CHAPTER 221

AN ACT CONCERNING CHIROPRACTIC.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Section 2869 of the general statutes as amended by section two of chapter 30 of the public acts of 1923 is amended to read as follows: Any person desiring to practice chiropractic shall make application for a license to the board of chiropractic examiners, through the secretary-treasurer thereof, upon such form as the board shall adopt, at least fifteen days prior to any meeting of said board. Each applicant shall have had a high school education or its equivilant and shall be a graduate of a chartered chiropractic school or college which requires of such applicant a course of instruction of three years of six months each, each of which years shall include nine hundred class hours or more of actual attendance. Applications shall be in writing, signed by the applicant and sworn to before an officer authorized to administer oaths and shall contain a statement of the educational advantages of the applicant, his experience in matters pertaining to knowledge of the care of the sick, the length of time applied and the school in which he studied chiropractic, any collateral branch of study and the length of time engaged in clinical practice and any diploma, certificate or degree which may have been conferred upon such applicant, with such evidence of good character and reputation as shall be required by said board. There shall be paid to the secretary-treasurer of said board by each applicant a license fee of twenty-five dollars, fifteen dollars to accompany the application and the balance to be paid upon the issuance of such license. A fee of ten dollars shall be paid the secretary-treasurer of said board for each re-examination. Said board may grant a license without examination to any licentiate of a similar board from any other state, who shall meet the educational and other requirements of this act and who shall furnish a certificate from the board under which a license shall have been held, certifying the applicant to be of good repute and that he or she has practiced under license for at least one year. There shall be paid to the secretary-treasurer of said board by each applicant for such reciprocal license a fee of fifty dollars, twenty-five of which shall accompany the application, and the balance shall be paid upon the issuance of such license.

Sec. 2. Section 2870 of the general statutes is amended to read as follows: With the exception of vertebral palpation and adjusting, examination shall be in writing, the subjects of which shall be as follows: Anatomy, physiology, symptomotology, histology, vertebral palpation, principles of chiropractic and adjusting, chemistry, hygiene, pathology, dietetics and diagnosis. A license shall be issued to each applicant therefor who shall pass such examination and who shall have met all other requirements of the board. Any chiropractor who shall have complied with the provisions of chapter 150 of the general statutes may adjust by hand any

articulations of the spinal column, but shall not prescribe for or administer to any person any medicine or drug included in materia medica or perform any surgery or practice obstetrics or osteopathy.

Sec. 3. Section 2872 of the general statutes is amended to read as follows: The board of chiropractic examiners may refuse to grant or may revoke a license to practice chiropractic or may cause a licensee's name to be removed from the records for any of the following reasons: The employment of fraud or deception in applying for a license or in passing any examination provided for in said chapter 150; the practice of chiropractic under a false or assumed name or the impersonation of another practitioner of like or different name; the conviction of a crime involving moral turpitude; habitual intemperance in the use of ardent spirits, narcotics or stimulants to such an extent as to incapacitate him or her for the performance of professional duties or the use of advertisements, which, from the standpoint of chiropractic theory and philosophy, shall contain misleading or improbable statements or which may be considered extravagant or unethical by the board of chiropractic examiners. Any licensee, or an applicant for a license to practice chiropractic, against whom any of the foregoing grounds for revoking or refusing a license shall be presented to said board with a view to having said board revoke or refuse to grant such license, shall be furnished with a copy of the complaint and shall have a hearing before said board in person or by attorney, and witnesses may be examined by said board respecting the guilt or innocence of the accused, and the accused shall have the right of examination of such witnesses. Said board may, at any time within two years of the refusal or revocation or cancellation of registration under the provisions of this section, by a majority vote, issue a new license or grant a license to the person affected, restoring to him or conferring upon him all the rights and privileges of and relating to the practice of chiropractic as defined and regulated by said chapter. Any person to whom such license shall have been restored shall pay to the secretary of the state the sum of twenty-five dollars upon issuance of a new license.

Sec. 4. Section 2874 of the general statutes is amended to read as follows: Each person practicing chiropractic shall, on or before the first day of September in each year, pay to said state board of chiropractic examiners a renewal license fee of four dollars, and the secretary-treasurer of said board shall, at least thirty days before the first day of September of each year, mail to each chiropractor a notice that such renewal fee is due.

Sec. 5. No person shall practice as a chiropractor under any name other than the name of the chiropractor actually owning the practice or a corporate name containing the name or names of such chiropractors. Each licensed chiropractor shall exhibit his name at the entrance of his place of business or on his office door.

SUBSTITUTE FOR HOUSE BILL NO. 293.

CHAPTER 28

AN ACT AMENDING AN ACT CONCERNING DUTIES OF SEXTONS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Section 3054 of the general statutes is amended to read as follows: The burial or removal permit required under the provisions of the general statutes shall be required in every case mentioned in

section 3053 of the general statutes except that, in cases where any body shall be placed temporarily in the receiving vault of any cemetery and subsequently buried in the same cemetery, no additional burial permit shall be required for such subsequent burial, and except that in disposing of the ashes of any body that shall have been cremated, either by burial or by placing such ashes in any cemetery vault, no additional burial permit shall be required. In every case herein provided for, the sexton of such cemetery shall indorse upon the original burial permit the date when the body was placed in the receiving vault, or when the ashes were buried or were placed in any such vault, and the date when and the place where such body was subsequently buried, or where such ashes were buried or placed; and he shall also include a statement of the same in his monthly returns to the registrar of vital statistics.

Sec. 2. This act shall take effect from its passage.

Substitute for House Bill No. 398.

CHAPTER 143

AN ACT CONCERNING THE POLLUTION OF WATER AND CREATING A STATE WATER COMMISSION.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Terms used in this act are defined as follows: The term "commission" shall mean the state water commission and the term "commissioner" shall mean a member of said commission. The term "waters" shall mean all tidal waters and all waters of any river, stream, pond or lake. The term "sewage" shall mean any substance, liquid or solid, which may contaminate or pollute or affect the cleanliness or purity of any water. The term "pollution" shall mean the contaminating or rendering unclean or impure of any water by reason of any sewage, waste or other material which shall be discharged or deposited by any public or private sewer or otherwise so as to directly or indirectly, immediately or ultimately, mingle or come in contact with any water and which may thereby tend to render or in fact renders such water unclean or impure. The term "corporation" shall mean any municipal corporation or any private corporation organized or existing under the laws of this or any other state or country.

Sec. 2. On or before the first day of June, 1925, the governor, with the advice and consent of the senate, shall appoint a state water commission consisting of three members, one of whom shall hold office for a term of six years, one for a term of four years and one for a term of two years from June 1, 1925, and biennially thereafter, on or before the first day of May, the governor, with the advice and consent of the senate, shall appoint one commissioner who shall hold office for six years, and each of such appointees shall hold office until his successor shall be appointed and qualified. If any vacancy shall occur in said commission, the governor shall fill such vacancy until the third Wednesday of the next regular session of the general assembly.

Sec. 3. Said commission shall elect from its membership a chairman and it may employ such assistants as shall be required. The compensation of the commissioners shall be fixed by the board of control, which, with the expenses of the members of the commission, shall be paid from the appropriation made for the purpose of carrying into effect the provisions of this act.

Sec. 4. The comptroller shall furnish office accommodations for said commission, and said commission may make use of the Connecticut Agricultural Experiment Station and the facilities of said station, and may co-operate with any other public or private agency in carrying out the provisions of this act.

Sec. 5. Any commissioner or any assistant or employee of said commission may, at any reasonable time, enter any premises while engaged in the performance of duty under the provisions of this act.

Sec. 6. Any person, firm or corporation causing the pollution of any water, or alleged to be causing the pollution of any water, may be cited to appear, not less than twelve or more than thirty days from the service of such citation, before said commission at a place designated by it, then and there to show cause, if any shall exist, why said commission should not issue an order regulating such pollution. Such citation may be issued by the commission or any member thereof and may be served and returned in the same manner as process in any civil action, or it may be served by sending a copy or notice thereof by registered mail addressed to the person, firm or corporation causing or alleged to be causing any pollution of any water. Any commissioner may issue any subpoena, administer oaths and cause the attendance of witnesses, the production of evidence and testimony in any proceeding before the commission, subject to the same conditions as are provided by the general statutes for the attendance of witnesses and the production of evidence and testimony in civil actions, and the commission may punish any person for contempt in the same manner as a court may punish for contempt in a civil action.

Sec. 7. If, upon hearing, the commission shall find that any person, firm or corporation is polluting the waters of the state, it may make an order directing such person, firm or corporation to use or to operate some practicable and reasonably available system or means which will reduce, control or eliminate such pollution having regard for the rights and interests of all persons concerned, provided the cost of installation, maintenance and operation thereof shall not be unreasonable or inequitable. Such order shall specify the particular system or means to be used or operated; provided if there shall be more than one such practicable and reasonably available system or means, such order shall give to such person, firm or corporation the right to choose which one of such systems or means shall be used or operated. Such order shall specify the time within which such system or means shall be used or the operation thereof shall be commenced and such time may be extended by the commission upon application made to it by the person, firm or corporation to whom such order shall have been issued and any such order may, upon application, be modified by the commission in any other particular not inconsistent with the provisions hereof. If any such order shall not specify the system or means to be used or operated, the person, firm or corporation against whom such order shall be issued shall, before proceeding to install any system or means, submit to the commission a plan or statement describing the system or means which is proposed to be used or operated. If any person, firm or corporation shall desire to make any substantial change in any system or means used or operated, such person, firm or corporation shall, before making such change, file with the commission a plan or statement describing such proposed change and the commission may, upon application of any person, firm or corporation, at any time, enter an order approving any such system or means which shall have been adopted or which it may be desired to adopt. Any order of the commission may, at any time after at least twenty days' notice in writing to any person, firm or corporation affected thereby and after a hearing thereon, be modified or revoked by an order passed by the commission. The commission shall forthwith cause an attested copy of each order passed by it to be served upon the person, firm or corporation affected

thereby in the same manner as writs or summons in civil actions may be served. The commission may cause the enforcement of any order issued by it to reduce, control or eliminate pollution of any water, by application to the superior court, or to any judge of said court if the same shall not be in session, to enjoin any person, firm or corporation from continuing such pollution, which application shall be brought and the proceedings thereon conducted by the attorney general.

Sec. 8. Any person, firm or corporation aggrieved by any order of said commission may, within thirty days after notice thereof, appeal from such order to the superior court, which appeal shall be served by filing a copy of such appeal with the commission and by service by any proper officer or indifferent person of a copy of such appeal upon each other person, firm or corporation interested, which appeal shall be returnable to the superior court in the county in which such pollution shall originate, at the next return day or the next but one. Said court shall hear such appeal and re-examine the legality of the order appealed from and the reasonableness and expediency of such order, so far as said court may have cognizance of such subject, either by itself or by a committee by it appointed, and shall proceed thereon in the same manner as upon complaints for equitable relief, and such appeal shall have precedence in the order of trial in accordance with the provisions of section 5763 of the general statutes. The superior court may render such judgment upon such appeal as it shall find will accord with the public welfare and may tax costs in its discretion.

Sec. 9. No person, firm or corporation shall create, establish, cause or maintain any source of pollution not existing at the time this act shall take effect, provided said commission, after hearing and investigation, upon application of any person, firm or corporation, may issue such order relating to any pollution as it shall find will best serve the public interest.

SUBSTITUTE FOR SENATE BILL NO. 539.

CHAPTER 240

AN ACT CONCERNING AN INVESTIGATION AND REPORT ON THE POTABLE WATER RESOURCES OF THE STATE.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

The state geological and natural history survey is directed to report to the next session of the general assembly on the water resources of the state. The geological and natural history survey is authorized to call upon other departments of the state for information in their possession in the preparation of such report. The expense of making such investigation and report, which shall not exceed the amount of the appropriation for said geological and natural history survey, shall be paid from such appropriation.

House Bill No. 410.

CHAPTER 71

AN ACT CONCERNING THE ESTABLISHMENT AND MAINTENANCE OF SLAUGHTER HOUSES.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. No slaughter house or place where the business of slaughtering beef, poultry or swine or preparing the same for market shall be carried on shall be maintained in any town, city or borough except upon written permission of the health officer or board of health of the town, city or borough within which the same shall be located, which permission may be revoked at any time. Such board of health or health officer may prescribe such rules and regulations as such board or officer may judge necessary for the control and management of such houses or places and for the inspection of the food products slaughtered or prepared for market therein, and may enter into such houses or places for the purpose of inspection. Any person who shall violate any rule or regulation made by any board of health or health officer under authority of this section or who shall conduct a slaughter house without having such written permission shall be fined not more than one hundred dollars or imprisoned not more than thirty days or both. Any town, city or borough may establish and maintain a slaughter house or slaughter houses within its territorial limits.

Sec. 2. Section 2405 of the general statutes is repealed.

Sec. 3. This act shall take effect from its passage.

Substitute for House Bill No. 711.

CHAPTER 262

AN ACT CONCERNING THE ERADICATION OF TUBERCULOSIS IN BOVINE ANIMALS AND PROVIDING FOR THE ESTABLISHMENT OF THE ACCREDITED STATE AND FEDERAL CO-OPERATIVE HERD TEST.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Section one of chapter 111 of the public acts of 1919 is amended to read as follows: Upon written application for the accredited state and federal co-operative herd test of any herd of neat cattle and upon placing such herd by the owner thereof under state and federal supervision for the eradication of tuberculosis and other contagious and infectious diseases of cattle, and upon complying with the provisions of this act and the system adopted by the United States department of agriculture known as "uniform methods, rules and regulations for tuberculosis-free accredited herds of cattle," the commissioner on domestic animals, his deputy or any authorized agent, may make a physical examination and tuberculin test, at the expense of the state, of each animal in such herd. When the commisioner on domestic animals shall have determined the condition of such herd by physical examination and tuberculin test, each animal

reacting to such test shall be immediately segregated from the animals not reacting to such test by the owner thereof and each animal reacting to such test shall be appraised as provided in section 2095 of the general statutes as amended and shall be disposed of and the premises upon which such animal shall have been kept shall be cleaned and disinfected within fifteen days thereafter, subject to the approval of the commissioner or his deputy or any authorized agent of the commissioner. Any animal reacting to such test which shall have been disposed of as provided by the general statutes shall be paid for by the comptroller, provided funds are available for such purpose, provided no animal reacting to such test and disposed of, which shall have been secured from any herd not under the supervision herein provided for, shall be paid for. Said commissioner shall issue to the owner of any such herd a certificate which shall include a statement of the results of any such test and shall include such herd in a list of herds tested under the provisions of this act, which list shall be issued semi-annually for public distribution. Such lists shall be subdivided and certificates shall be issued as follows: (1) When any such herd shall have been tuberculin-tested as herein provided and any reactor found, it shall be placed on a list entitled "Officially tested and Reactors removed", and said commissioner shall issue to the owner thereof a certificate which shall include a statement of such facts. (2) When any such herd shall have been tuberculin-tested and found free from any reactors it shall be placed on a list entitled "Tested and Found to be without Reactors" and said commissioner shall issue to the owner thereof a certificate which shall include a statement of such facts. (3) When any such herd shall have been subjected to two consecutive annual or three consecutive semi-annual tuberculin tests and shall have been found free from any reactors in each of such tests, it shall be placed on a list entitled "Accredited Herd free from Tuberculosis" and said commissioner shall issue to the owner thereof an accredited herd certificate.

Sec. 2. Said commisioner shall have authority to co-operate with the bureau of animal industry of the United States department of agriculture in any national system which may be adopted by said department or bureau for the eradication of bovine tuberculosis or any contagious or infectious disease of any bovine animal. He may employ such number of veterinarians at the expense of the state to carry on the work of the eradication of tuberculosis in herds of bovine animals as there are inspectors employed by the United States department of agriculture for such purpose in this state. The commissioner on domestic animals may accept from the United States such assistance, financial or otherwise, for the condemnation of diseased animals, for remunerating the owners thereof and for carrying out the provisions of this act, as may be available from time to time.

Sec. 3. No tuberculin test shall be made by the commissioner on domestic animals or under his direction in co-operation with the United States department of agriculture as provided in this act which shall cause any expense to be incurred by the state, unless the application for such test shall be approved by said commissioner.

Sec. 4. The addition of any animal to any herd under the supervision herein provided for shall be reported to said commissioner, within seven days after arrival, and such report shall include the eartag or registration number and any other description and information which the commissioner may require.

Individual Accredited Herd Plan.

Sec. 5. A tuberculosis-free accredited herd shall be any herd which shall have been maintained under sanitary conditions and which shall have passed two successful annual or three successful semi-annual physical examinations and tuberculin tests. Each tuberculin test and physical examination made under the provisions of this act shall be made by

a veterinarian regularly employed by the United States bureau of animal industry or a veterinarian authorized by said commissioner.

Sec. 6. The tuberculin test shall be the subcutaneous test or the intradermic test or the ophthalmic test when applied in combination with either the subcutaneous or intradermic test. Any herd in which any reactor shall have been found shall not be accredited except when the final or accredited test shall have been made by a combination of either the subcutaneous and ophthalmic test or by a combination of the intradermic and ophthalmic test. Any animal which shall have been found to react shall not be presented for any test under the provisions of this act.

Sec. 7. Any herd or any animal in any herd shall be tested or retested at any time when such test shall be deemed advisable by the federal and state authorities.

Sec. 8. The owner of any herd shall house, feed and care for such herd under such sanitary conditions as shall promote the health of such herd. No calf shall be fed milk or any other dairy product except such milk or other product as shall have been produced by a herd that is maintained under the provisions of this act, or such milk or other dairy product which shall have been pasteurized by being maintained at a heat of 145 degrees Fahrenheit for a period of thirty minutes.

Sec. 9. The owner of any herd subject to the provisions of this act shall keep a record which shall include a description of each registered or graded animal in such herd and the final disposition that such owner shall make of any animal of such herd and each such animal shall be marked by a tag or other marking approved by the commissioner on domestic animals.

Sec. 10. Any vehicle which shall be used for the transportation of any animal to any herd maintained under the provisions of this act shall be cleaned and disinfected before it shall be used for the transportation of such animal. Any animal may be added to any accredited herd which shall have come from another accredited herd or from a herd which shall have been tested once and found to be without reactors and shall have been subjected to one additional test which shall have been made not less than sixty or more than ninety days after the first test and which animal shall, from the time of the first test to the time of such additional test, have been maintained apart from other animals of the herd to which such animal is to be added. Any animal may be added to any accredited herd maintained under the provisions of this act which shall have come from any modified accredited area, provided a test shall be made of such animal not less than sixty nor more than ninety days after such animal shall have beeen secured for addition to such herd and provided such animal, until subjected to such test, shall be kept apart from the herd to which it is to be added. Any animal may be added to any accredited herd under the provisions of this act which shall come from a herd which has passed one test, which test shall be approved of by the commissioner, provided a second test shall be applied not less than sixty nor more than ninety days after the time such animal shall be secured for addition to such herd and provided such animal shall be kept apart from such herd to which it is to be added until after such test. Any animal may be added to any herd which shall have passed one test without any reaction thereto, which animal shall come from any accredited herd or from any herd which shall have been tested at least once and found to be without any reactor or from any modified accredited area or from a herd not under supervision which shall have passed one complete test by an approved veterinarian, provided such test shall be applied in not less than sixty nor more than ninety days after such animal shall have been secured for addition to such herd and provided such animal, until such test, shall be kept apart from such herd. Any animal may be added to any herd during the process of accreditation, in which any reactor shall

have been found, at the last test of such herd, as provided in this section, or which shall pass two tests, which tests shall be made not less than sixty nor more than ninety days apart, provided such animal shall be kept apart from the herd to which it is to be added until the final test.

Sec. 11. Any herd accredited under the provisions of this act shall be tuberculin-tested annually and at such other times as the United States bureau of animal industry or said commissioner shall determine. Each such test shall be made at the expense of the owner of such herd. The United States bureau of animal industry or the commissioner on domestic animals may supervise any test made under the provisions of this act.

Sec. 12. In the event any test of any accredited herd shall disclose not more than one reactor in such herd, such herd may be reinstated, provided such herd shall be subjected to a test which shall be made in not less than four months from the time of the test in which such reactor was disclosed and provided such subsequent test shall disclose no reactor in such herd.

Sec. 13. If such subsequent test of any such herd shall disclose that more than one reactor is present in such herd, another test may be applied to such herd within sixty days from the date of the last test.

Sec. 14. No animal maintained under the provisions of this act shall be allowed to be pastured, housed, maintained or bred with any bovine animal not maintained under the provisions of this act.

SUBSTITUTE FOR HOUSE BILL NO. 892.

CHAPTER 233

AN ACT AMENDING AN ACT CONCERNING THE DISPOSAL OF DISEASED ANIMALS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 2095 of the general statutes as amended by chapter 116 of the public acts of 1923 is amended to read as follows: The commissioner on domestic animals may cause any domestic animal quarantined in accordance with the provisions of section 2094 of the general statutes to be killed, but no bovine or equine animal so quarantined shall be killed until its value shall have been determined by the owner and the commissioner. If they shall be unable to agree upon the value of such animal, each shall choose an arbitrator and the two so chosen shall choose a third and the three so chosen shall determine the value of such animal, and the value so determined shall be approved by the commissioner, and when a sworn certificate shall have been filed with the commissioner that such animal has been killed and buried and the premises disinfected according to the order of the commissioner, within a period of fifteen days following the issuance of such order, such amount shall be paid to the owner by the state upon the order of the comptroller. If such three arbitrators shall not agree, they shall so find and report and other arbitrators may be appointed as hereinbefore provided who shall proceed in the same manner as those first chosen; but no animal the physical condition of which is such that it is of no real value, and no animal which shall have been in the state for a period of less than three months next preceding its quarantine, shall be paid for by the state, provided such award may be paid in the case of cattle from any herd which shall have been officially accredited or from any herd from which the entire number shall have passed two regular tuberculin tests and a physical examination made under the provisions of the rules and regulations for accredited herds as approved by the officials of the state from which such cattle were shipped and

by the commissioner on domestic animals and such cattle have not, since passing such tests, been exposed to infection from tuberculosis. The provisions of this act shall not apply to animals condemned to prevent the spread of the foot and mouth disease. When the value of any such animal shall be appraised as provided herein, the state shall pay for any pure-bred bovine or equine animal a sum not exceeding one hundred and fifty dollars, and for any such graded animal a sum not exceeding one hundred and twenty-five dollars. No compensation shall be paid to the owner of any such domestic animal by the state unless such animal shall have been destroyed to prevent the spread of an infectious or contagious disease.

SUBSTITUTE FOR HOUSE BILL NO. 903.

CHAPTER 101

AN ACT AMENDING AN ACT CONCERNING THE SALE OF IMPURE MILK.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 2482 of the general statutes is amended to read as follows: No person, firm or corporation shall offer or sell or expose for sale for human consumption, anv milk containing an average of more than one million bacteria per cubic centimeter, as determined by analyses made by a laboratory approved by the state department of health of at least three separate samples taken, within a period of not exceeding thirty days, from milk offered or sold or exposed for sale bv the same person, firm or corporation, and no person, firm or corporation shall, for any purpose, use or publish any result of any count or test of bacteria, which count or test shall not have been made by the state department of laboratories or by a laboratory approved by the state department of health. Any person, firm or corporation violating any provision of this act shall be fined not more than one hundred dollars.

HOUSE BILL NO. 1088.

CHAPTER 260

AN ACT AMENDING AN ACT CONCERNING MARRIAGE LICENSES.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 5263 of the general statutes as amended by chapter 260 of the public acts of 1921 is amended to read as follows: No persons shall be joined in marriage until both shall have joined in an application to the registrar of births, marriages and deaths in the town in which such marriage is to be celebrated, for a license for such marriage, which application shall be under the oath of each of the applicants and shall state, as to each applicant, the name, age, color, occupation, birthplace, residence, whether single, widowed or divorced and whether under the supervision or control of a guardian or conservator. If either of such persons shall be a resident of such town, such registrar shall issue his certificate that the

parties therein named have complied with the provision of this act, provided any person under the control or supervision of any guardian or conservator shall file with the registrar the written consent of such guardian or conservator. If neither of such persons shall be a resident in such town such registrar shall not issue such certificate until the fifth day following such application unless the judge of probate for the district in which the intended marriage is to be celebrated, after hearing such evidence as shall be presented, shall render a decision in writing that, in the opinion of such judge, public policy or the physical condition of either one of the parties requires the intended marriage to be celebrated without delay. Upon receipt of such decision, such registrar shall place the same on file as a public document and shall immediately issue a license which shall state that the parties therein named have complied with the provisions of this act. Such certificate shall be a license for any person authorized to perform the marriage ceremony to join in marriage within such town the parties therein named, but no such certificate shall be issued if either of the parties is a minor until a parent or guardian having control over such minor shall give to such registrar his written consent nor to parties either of whom is less than sixteen years of age unless one of the selectmen or any person exercising the authority of a selectman in the town or city in which such marriage ceremony is to be performed shall endorse on such certificate his written consent. If any minor shall have no parent or guardian who is a resident of the United States, the consent of the first selectman of the town where such minor last resided for the period of six months shall be sufficient. Any registrar who shall issue any certificate before the expiration of the period herein provided for or who shall knowingly issue any such certificate without the consent herein provided for and any person who shall join any persons in marriage without having received such certificate shall be fined not more than one hundred dollars. No person married without the consent herein provided for shall acquire any rights by marriage in the property of any person who shall, at the time of such marriage, be under the supervision of any conservator.

LIST OF OTHER MISCELLANEOUS ACTS PERTAINING TO PUBLIC HEALTH.

Substitute for S. B. No. 510.
An Act Concerning Licensing of Hairdressers and Cosmeticians.

Substitute for H. B. No. 657.
An Act Amending An Act Concerning the Practice of Veterinary Medicine, Surgery or Dentistry.

S. B. No. 511.
An Act Amending An Act Concerning Dentistry.

Substitute for H. B. No. 407.
An Act Concerning the Practice of Optometry.

Substitute for H. B. No. 897.
An Act Concerning the Powers and Duties of the Pharmacy Commission.

Substitute for H. B. No. 443.
An Act Amending An Act Concerning Coroners and Medical Examiners.

Substitute for H. B. No. 411.
An Act Concerning the Licensing of Undertakers and Embalmers.

Substitute for H. B. No. 889.
An Act Concernig Toilets in Manufacturing, Mechanical and Mercantile Establishments and Public Restaurants.

H. B. No. 708.
AN Act Amending An Act Concerning Orders and Regulations Concerning Domestic Animals.

Substitute for H. B. No. 722.
An Act Making an Appropriation to Carry Out the Provisions of the General Statutes Concerning the Marketing of Oysters.

Substitute for S. B. No. 227.
An Act Amending An Act Concerning the Sampling and Testing of Milk and Cream.

Substitute for H. B. No. 717.
An Act Concerning the Sale of Milk from Diseased Cows.

Substitute for H. B. No. 905.
An Act Amending An Act Concerning Condensed Milk and Cream.

H. B. No. 713.
An Act Concerning the Inspection of Dairies and the Production and Marketing of Milk and Cream.

Substitute for H. B. No. 902.
An Act Concerning the Manufacture and Sale of Ice Cream.

Substitute for H. B. No. 898.
An Act Concerning the Bottling of Water and the Manufacture and Bottling of Beverages.

Vital Statistics

Month of May

Births

Reports of 2,371 births were received for May as compared with 2,751 for the corresponding month in 1924, a decrease of 380. The birth rates on a **monthly basis** are, for 1925 1.54$\pm$.03 and for 1924 1.83$\pm$0.3, where, in each case, $\pm$.03 is the fluctuation of the monthly rate which might be expected to arise from the variations due to pure chance alone. The absolute value of the difference of these rates is 0.29$\pm$.04, from which it is apparent that the difference is about seven times the dispersion of $\pm$.04. As variations of three or more times the dispersion are significant it is to be concluded that the decrease this month is highly significant.

The mean number of births over the period 1920 to 1924 is 2,774 $\pm$60. The number of births reported for 1925, 2,371, is 403 below this mean, or about six and one half times the dispersion of $\pm$60. It must be borne in mind that the sample under analysis is small. However, the variation of the month from the mean is significant. The mathematical discussion, while indicating the significance of the variation, in no way points out the cause or causes of the decrease.

An increased number of births were reported from only 14 out of 47 towns over 5,000 in population and of these 14 only 3 reported increases of 10 or more. These towns are the following, in each case the numbers immediately following the town being the increase: Bridgeport, 20; New Haven, 19; Windham, 18.

During the month reports of 102 stillbirths were received an increase of 12 over the number reported in 1924, namely, 90. If the births and stillbirths be combined, and the monthly stillbirth rate per 1,000 be calculated, there will result for 1925 a rate of 41.3$\pm$4.1 and for 1924 a rate of 33.5$\pm$3.3. The difference in these rates is 7.8$\pm$5.0 showing, as might have been suspected, that the increase is not significant.

Deaths

The deaths reported for the month numbered 1,485, an increase of 143 over 1,342 reported in 1924 for May. If the death rate be figured as monthly death rates per 1,000 population a rate of 0.96 $\pm$.02 appears for 1925 as compared with a rate of 0.90$\pm$.02 for 1924. The increase expressed as a rate

is therefore 0.06±.03 showing that there is no clearly significant increase.

The mean number of deaths over the period 1920-1924 is 1,429 ±31. The month is therefore 56 above the mean, which is not even twice the dispersion. The standard deviation of the sample is about 70, showing that there is not much "scatter" or dispersion.

Below is given a table to exhibt the increase or decrease of deaths due to certain causes:

CAUSE OF DEATH	1925	1924	INCREASE	DECREASE
Diseases of the Heart	220	195	25	....
Epidemic Encephalitis	4	2	2	....
Pneumonia, Undefined	....	3	....	3
Typhoid Fever	2	3	....	1
Measles	2	5	....	3
Scarlet Fever	5	10	....	5
Whooping Cough	10	7	3	....
Diphtheria	6	7	....	1
Influenza	33	20	13	....
Tuberculosis, Pulmonary	100	101	....	1
Tuberculosis, Other forms	14	12	2	....
Cancer	153	122	31	....
Cerebrospinal Meningitis	....	1	....	1
Poliomyelitis	1	1	....	....
Pneumonia, Lobar	53	53	....	....
Pneumonia, Broncho	53	63	....	10
Diarrhoea and Enteritis (Under 2)	9	18	....	9
Puerperal Diseases	17	15	2	....
Accident	90	90	....	....
Suicide	11	17	....	6
Homicide	5	9	....	4
Other causes	697	588	109	....
Totals	1,485	1,342	187	44

If the entry "Other Causes" be excepted, the table above exhibits three marked increases: deaths from Diseases of the Heart with an increase of 25, but, as an increase of 14 over the figures of 1924 might be expected, the increase is not startling; deaths from Influenza with an increase of 13, where about 4 or 5 might have been experienced; deaths from Cancer with an increase of 31 as compared with a chance increase of 11. These increases due to Influenza and Cancer are apparently significant. There is no significant decrease in any of the diseases listed above.

Automobile accidents accounted for 23 of the 90 deaths due to accidents as compared with 18 for 1924. The increase of 5 is very nearly within the limit of 4 set by pure chance fluctuation.

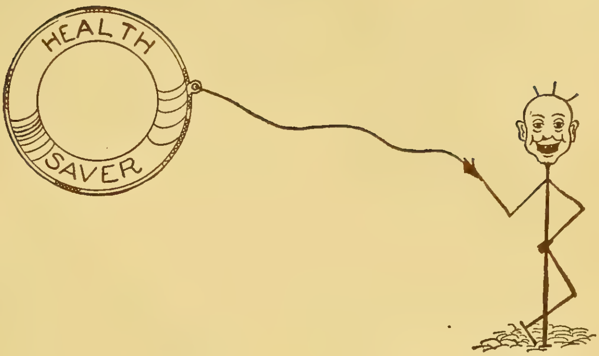
Marriages

The marriages numbered 812, a decrease of 119 below the number 931 reported in 1924. The mean number reported over the five-year period 1920-1924 is 948±31. The month is therefore 136 below the average or more than 4 times the standard deviation of the mean—a significant decrease.

For Six Years—May 1920-1925

CONNECTICUT	1920	1921	1922	1923	1924	1925
BIRTHS *Birth Rate*	2953 25.4	2898 24.5	2603 21.6	2666 21.7	2751 22.0	2371 18.5
DEATHS *Death Rate*	1522 13.1	1352 11.4	1457 12.1	1472 12.0	1342 10.7	1485 11.6
MARRIAGES *Marriage Rate*	1084 9.3	907 7.7	898 7.4	920 7.5	931 7.4	812 6.4
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	246 16.2	162 12.0	182 12.5	194 13.2	155 11.5	159 10.7
DEATHS UNDER 1 YEAR *Rate per 1000 births*	243 85.3	200 70.2	191 73.2	169 65.9	175 66.3	185 72.7

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.



Towns not Reporting, May, 1925

Births	Marriages	Deaths
Andover	Andover	
Canaan	Canaan	
	Essex	
Franklin	Franklin	Franklin
Middlebury	Middlebury	
Middletown	Middletown	
	New Hartford	
	Plainville	
	Seymour	
Warren	Warren	Warren
Waterford	Waterford	

Births, Marriages and Deaths

May, 1925 Statistics	Population Est. as of July 1, 1925 Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Still Births	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births.	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,529,688	2371	102	812	1485	11.6	0.8	72.7	185	51	494
Ansonia	19,034	16	....	6	20	12.6	1.3	199.3	5	1	5
Branford	6,954	10	....	2	5	8.6	3.5	103.4	1	....	1
Bridgeport	166.644	273	6	91	116	8.4	0.6	36.6	10	5	35
Bristol	24.621	59	2	13	11	5.4	0.5	79.6	4	....	1
Danbury	21,931	41	2	8	35	19.2	0.5	116.1	5	....	14
Derby	12,500	36	4	3	16	15.4	1.0	....	....	....	4
East Hartford	13,616	9	1	5	9	7.9	....	....	....	....	4
Enfield	12,834	20	2	18	8	7.5	....	40.5	1	....	3
Fairfield	14,490	13	1	3	6	5.0	....	....	....	....	3
Glastonbury	6,042	9	....	6	2	4.0	....	....	....	....	....
Greenwich	25,207	31	1	53	26	12.4	....	100.8	4	....	6
Groton	10,764	4	....	7	8	8.9	....	....	....	....	3
Hamden	10,150	12	....	8	10	11.8	1.2	61.2	1	1	3
Hartford	160,199	306	11	92	145	10.9	1.3	41.6	14	7	44
Killingly	9,051	15	....	6	5	6.6	....	....	....	1	4
Manchester	21,018	34	1	8	13	7.4	....	105.0	4	....	3
Meriden	36,251	61	1	14	40	13.2	1.3	103.1	6	3	10
Middletown	22,649	....	....	....	57	30.2	1.1	140.2	7	1	20
Milford	13,473	9	....	5	10	8.9	....	....	....	....	5
Naugatuck	16,350	11	....	7	13	9.5	0.7	....	....	1	5
New Britain	67,896	133	11	30	58	10.3	0.7	109.4	15	1	15
New Haven	178,735	361	17	91	188	12.6	0.5	74.6	25	8	66
New London	29.003	43	5	24	35	14.5	0.8	92.8	6	....	11
Norwalk	29,596	50	2	24	36	14.6	....	17.0	1	1	15
Norwich	30,425	73	4	26	45	17.7	2.0	72.6	5	1	16
Plainfield	8,570	12	2	4	3	4.2	....	....	....	....	1
Plymouth	6,349	5	....	3	6	11.3	....	118.8	1	....	3
Putnam	8,990	8	1	8	13	17.4	....	52.4	1	....	9
Seymour	7,911	6	1	....	5	7.6	1.5	93.7	1	....	2
Shelton	11,134	14	....	4	13	14.0	1.1	....	....	....	1
Southington	9,529	11	2	5	3	3.8	....	64.9	1	....	....
Stafford	5,457	13	....	9	9	19.8	....	....	....	....	3
Stamford	46,218	94	2	41	53	13.8	1.0	81.6	8	2	15
Stonington	10,819	12	....	6	12	13.3	....	69.8	1	1	4
Stratford	16,085	14	1	3	9	6.7	0.7	51.5	1	....	3
Thompson	5,196	3	....	3	5	11.5	....	....	....	1	3
Torrington	24,492	37	3	15	20	9.8	....	45.3	2	2	3
Vernon	8,822	9	....	3	10	13.6	....	....	....	....	7
Wallingford	12,483	10	....	3	7	6.7	....	....	....	....	5
Waterbury	102,134	193	5	31	103	12.1	0.8	93.9	19	7	17
Watertown	7,192	4	....	4	4	6.7	....	155.8	1	....	....
West Hartford	11,146	17	1	3	24	25.8	1.1	753.9	12	....	4
West Haven	17,834	29	....	8	25	16.8	0.7	58.7	2	1	7
Westport	5.597	5	....	6	4	8.6	....	....	....	....	3
Winchester	9,129	17	1	6	8	10.5	....	....	....	....	3
Windham	14,368	33	2	8	16	13.4	....	104.0	3	1	4
Windsor	6,436	10	....	1	4	7.5	....	122.4	1	....	1
Towns under 5,000	209,346	186	10	88	212	12.2	0.9	67.5	17	5	100

for the Month of May, 1925

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
220	4	......	2	2	5	10	6	33	100	14	153	......	1	53	53	9	17	90	11	5	542	256
3	......	......	......	......	......	1	1	......	1	......	3	......	......	......	1	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	......	......	......	......	......	......	......
13	......	......	......	......	1	1	......	2	5	1	16	......	......	9	6	1	3	5	2	1	48	16
1	......	......	......	......	......	......	......	1	1	......	1	......	......	......	......	......	......	......	......	......	4	1
4	......	......	1	......	......	......	......	......	2	2	4	......	......	......	......	......	......	3	......	......	15	10
	......	......	......	......	......	......	......	......	1	......	4	......	......	1	......	......	......	4	......	......	10	9
4	......	......	......	......	......	......	......	1	......	......	......	......	......	1	......	......	1	......	......	......	......	......
	......	......	......	......	......	......	......	......	......	......	3	......	......	......	......	......	......	1	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1	......	......	3
	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1	......	......	......	......	......	......	......
4	......	......	......	......	......	......	......	1	1	......	2	......	......	1	......	......	......	......	......	......	11	3
2	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	1	......	......	......	1
2	......	......	......	......	......	1	......	......	1	......	1	......	......	1	......	......	......	1	......	......	......	......
24	1	......	......	......	......	......	3	2	8	2	15	......	......	3	7	2	3	11	2	......	90	31
	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......
3	......	......	1	......	......	......	......	......	......	......	1	......	......	2	1	......	......	1	......	......	8	2
3	1	......	......	......	......	......	......	......	5	......	4	......	......	4	......	......	......	2	1	......	11	4
10	......	......	......	1	......	......	......	......	5	......	1	......	1	2	8	......	2	3	......	......	37	27
1	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	1	......	3	......
1	......	......	......	......	......	......	......	......	1	......	......	......	......	......	2	......	......	1	......	......	......	......
6	......	......	......	......	......	......	1	3	3	......	3	......	......	2	4	1	1	2	......	......	18	4
33	1	......	......	......	2	1	......	2	6	2	14	......	......	6	5	1	1	16	1	......	81	30
4	......	......	......	......	......	......	......	......	2	1	2	......	......	......	......	......	1	3	......	......	13	7
8	......	......	......	......	......	......	......	......	......	......	4	......	......	2	......	......	......	3	1	......	9	1
3	......	......	......	......	......	......	1	1	10	2	4	......	......	......	5	......	......	3	......	......	20	12
	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	......	......	......	......	......
3	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	......	......	......	......	......
4	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	5	4
	......	......	......	......	......	......	......	......	1	......	......	......	......	......	1	......	......	......	......	......	......	......
	......	......	......	......	1	......	......	......	8	......	1	......	......	......	......	......	......	......	......	......	7	7
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	1	1	......	......	5	1
5	......	......	......	......	1	......	......	1	2	......	8	......	......	1	1	......	2	4	......	3	17	2
2	......	......	......	......	......	......	......	2	......	......	......	......	......	......	1	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	1	......	......	......	......	2	......	......	......	......	......	......	......	......
1	......	......	......	1	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	1	......
4	......	......	......	......	......	......	......	2	......	......	2	......	......	1	......	......	1	3	......	......	9	5
4	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	......	......	......	1	......
1	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	4	......
8	1	......	......	......	......	1	......	5	7	2	13	......	......	5	1	1	......	8	......	......	50	16
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
4	......	......	......	......	......	1	......	6	1	......	3	......	......	1	3	3	1	......	......	......	12	4
5	......	......	......	......	......	1	......	......	6	......	2	......	......	......	1	......	......	2	......	......	6	9
2	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	2	2
	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	1	......	......	5	3
2	......	......	......	......	......	......	......	......	......	1	2	......	......	1	......	......	......	1	......	......	5	3
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1
36	......	......	......	......	......	3	......	3	20	1	26	......	......	7	3	......	......	9	2	1	35	38

Laboratories

REPORT OF THE BUREAU OF LABORATORIES FOR JUNE, 1925

DIAGNOSTIC

	+	—	?	Total	
Typhoid					
Blood for Widal	1	41	1	43	
Blood cultures	....	2	....	2	
Feces	....	45	....	45	
Urine	....	41	....	41	
Paratyphoid A					
Blood for Widal	....	43	....	43	
Blood cultures	....	2	....	2	
Feces	....	45	....	45	
Urine	....	41	....	41	
Paratyphoid B.					
Blood for Widal	....	43	....	43	
Blood cultures	....	2	....	2	
Feces	6	39	....	45	
Urine	8	33	....	41	
Diphtheria Cultures					
Diagnosis	42	265	....	307	
Release	8	85	....	93	
Diphtheria Carriers					
Diagnosis	....	....	....	....	
Release	27	150	....	177	
Diphtheria Virulence	12	10	....	22	
Vincent's Angina	1	300	....	301	
Haemolytic Streptococci	4	297	....	301	
Tuberculosis					
Sputum preparations	19	81	....	100	
Syphilis	149	1222	125	1496	
Colloidal Gold Test for Spinal Fluids	3	13	....	16	
Gonorrhoea	15	82	....	97	
Malaria	....	2	....	2	
Rabies	....	5	....	5	
Feces					
Ova & parasites	....	1	....	1	
Urine					
Bacillary dysentery	....	1	....	1	
Special specimens	1	3	....	4	
					3316

CHEMICAL AND BACTERIOLOGICAL

Towns sending milk samples	14		
Milk samples tested		207	
Milk samples below fat standard	18		
Towns sending water samples	100		
Water samples tested		320	
Clinical thermometer examinations			
For permits to seal		2	
For certification		215	744
Total number of examinations made			4060

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF JUNE, 1925

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of June, 1925, with the corresponding month for the years 1920, 1921, 1922, 1923 and 1924.

Disease	Average 1920-1924 for June	Mean 1920-1924 for June	1920	1921	1922	1923	1924	1925
Cerebrospinal Meningitis ..	5	5	6	9	5	5	2	1
Diphtheria	150	154	156	205	154	136	111	123
Encephalitis Epidemic	4	6	5	4	......	6	7	6
Measles	756	512	987	287	1437	556	512	1049
Poliomyelitis	2	7	1	7	......	......	2	1
Scarlet Fever	231	230	245	179	159	230	341	180
Smallpox	6	......	......	......	26	3	8	......
Typhoid Fever	23	15	15	39	39	9	12	14
Tuberculosis (pulmonary ..	153	137	171	192	136	137	128	137
Whooping Cough	188	237	253	237	115	262	74	458

A comparison of the morbidity on these diseases for the two preceding months, April and May with the June record is as follows:

	April	May	June
Cerebrospinal Meningitis	4	4	1
Diphtheria	138	103	123
Encephalitis Epidemic	4	6	6
Measles	780	985	1049
Poliomyelitis	3	1	1
Scarlet fever	480	364	180
Smallpox	2	2	......
Typhoid fever	11	19	14
Tuberculosis (pulmonary)	151	104	137
Whooping Cough	402	481	448

Cases of Other Reportable Diseases

Chickenpox	225
Conjunctivitis Infectious	1
Ophthalmia Neonatorum	2
Dysentery (Bacillary)	1
Encephalitis Epidemic	6
German Measles	153
Influenza	12
Malaria	5
Mumps	89
Para-typhoid Fever	4
Pneumonia (Broncho)	72
Septic Sore Throat	4
Tetanus	2
Gonorrhoea	96
Syphilis	107
Total	779

Cases of Occupational Diseases

Dermatitis Venenata	2
Mercurial Poisoning	1
Pneumoconiosis	1
Total	4

Cases of Certain Reportable Diseases

June, 1925	Population Est. as of July 1, 1925	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Cerebrospinal Meningitis	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com Diseases
State Total	1,529,688	14	1049	180	458	123	1	1	137	10	100	779
NEW HAVEN CO.	**459,157**	**9**	**382**	**35**	**203**	**32**		**1**	**41**	**2**	**37**	**213**
New Haven	178,735	6	297	12	126	3			21	1	16	94
Waterbury	102,134		3	15	1	18			14	1	13	21
Meriden (city and town)	36,251			2	11				4		6	13
Ansonia	19,034					2		1				
West Haven	17,834	2	44	1	9	1			1			28
Naugatuck	16,350											
Wallingford (town and boro)	12,483	1				3						
Milford	13,473		1		3							8
Derby	12,500											1
Hamden	10,150		23		10				1		1	33
Branford (town and boro)	6,954					1						
Seymour	7,911			2								
Towns under 5,000	25,348		14	3	43	4					1	15
FAIRFIELD CO.	**363,740**		**46**	**66**	**66**	**40**			**34**	**3**	**17**	**118**
Bridgeport	166,644		23	37	11	23			19	1	7	47
Stamford (city and town)	46,218		17	5	11	10			2		2	15
Norwalk	29,596		2			2			6		2	5
Danbury (city and town)	21,931		3	1		3			1			1
Greenwich (town and boro)	25,207			2	17	1			2	2	2	28
Stratford	16,085			1		1					1	4
Fairfield	14,490				21							2
Shelton	11,134			11					1			4
Westport	5,597											
Towns under 5,000	26,838		1	9	6				3		3	12
HARTFORD CO.	**384,608**	**1**	**172**	**48**	**35**	**32**			**45**	**5**	**28**	**203**
Hartford	160,199		35	8	26	19			25	4	17	106
New Britain	67,896	1	62	12		4			4	1	3	27
Bristol (city and town)	24,621		28	6	1	4			8		2	21
Manchester	21,018			14					1		1	12
Enfield	12,834		1	1	1				1		1	3
East Hartford	13,616			3		1			2			4
Southington (town and boro)	9,529		5	2							1	7
West Hartford	11,146		2	1	3						1	4
Windsor	6,436			1		1			1		1	4
Glastonbury	6,042											1
Towns under 5,000	46,253		39		4	3			3		1	14
NEW LONDON CO.	**112,155**	**2**	**6**	**7**	**65**	**11**			**12**		**1**	**59**
Norwich (city and town)	30,425	2		1	1	7			3			2
New London	29,003		2	1	38	3			3			7
Stonington (town and boro)	10,819				1	1						1
Groton (town and boro)	10,764		4	3	4							2
Towns under 5,000	31,144			2	21				6		1	47
LITCHFIELD CO.	**79,851**		**7**	**8**	**29**	**4**						**48**
Torrington (town and boro)	24,492											
Winchester (inc. Winsted)	9,129											1
Plymouth	6,349		1	5	11	1						3
Watertown	7,192											
Towns under 5,000	32,689		6	3	18	3						44
WINDHAM CO.	**55,360**		**16**	**1**		**1**	**1**				**4**	**16**
Windham (inc. Willimantic)	14,368		1				1				1	2
Putnam (city and town)	8,990		3								1	9
Plainfield	8,570					1						
Thompson	5,196		1								2	1
Killingly (inc. Danielson)	9,051		8									1
Towns under 5,000	9,185		3	1								3
MIDDLESEX CO.	**47,152**		**420**	**3**	**60**				**5**		**9**	**104**
Middletown State Hospital									3			5
Middletown (city and town)	22,649		238	1	38						8	78
Towns under 5,000	24,503		182	2	22				2		1	21
TOLLAND CO.	**27,665**	**2**		**12**		**3**					**4**	**18**
Vernon (inc. Rockville)	8,822			5								
Stafford (town and boro)	5,457			4		1					3	3
Towns under 5,000	13,386	2		3		2					1	15

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THE YARDSTICK OF CHANCE FLUCTUATION

Pure Chance

Probability must of necessity enter into vital statistics. And probability is based on a mathematical definition which is best set forth by an example. The ordinary pack of playing cards contains 52 cards, 13 of which are spades and 39 of which are of other suits. If a single card is drawn, what is the probability or chance that it is a spade? Well, a single card may be drawn in 52 ways and a spade may be drawn in 13 ways, and the chance of drawing a spade is 13 divided by 52 or ¼ or 0.25. Similarly, the chance of not drawing a spade is 39 divided by 52 or ¾ or 0.75. If we put this in words we may say the probability an event will happen is the favorable ways divided by the total number of ways, combining favorable and unfavorable. The chance that the event will not happen is the unfavorable ways divided by the same total.

One fact should be noted—if we draw a card from a pack it is certain to be a spade **or** not a spade. The chance of a spade is ¼. The chance of not drawing a spade is ¾ and the sum of these chances is 1.0. The number 1 is therefore said to indicate certainty. If, therefore, the chance of an event happening is known the chance it will not happen is easily calculated. Suppose the chance of an event happening is 1/10. The chance it will not happen is 1-1/10 of 9/10. And so for any example.

Now suppose instead of drawing a card only once we draw it, note its suit, replace it, shuffle the pack and draw again, performing this experiment 1,000 times. How many times may we expect a spade to appear? The answer is quite simple—in ¼ of the 1,000 times a card is drawn, or 250 times. A spade will not be drawn in ¾ of 1,000 or 750 times. This

is the theoretical discussion. Actually, if the experiment were performed, we could not reasonably expect to get exactly 250 spades. And so the question arises: "By how much may we depart from 250 before our suspicion is aroused?" There is such a thing as too much hard luck in probability and too much good luck, for that matter. A certain amount of each is to be expected, which can be estimated. In our example it is the square root of the product of the two probabilities multiplied by 1,000 or the square root of $\frac{1}{4} \times \frac{3}{4} \times 1{,}000$=the square root of $187.5 = \pm 13.7$ or 14, in whole numbers. Therefore we might expect to get a spade 250 ± 14 times. So our spades ought to lie somewhere between 236 and 264. Suppose we only draw 190 spades. This is 60 below the expected number, and 60 is about 4 times 14. We would be justified in being suspicious—our run of hard luck is 4 times our expected deviation. It might be that some of the spades were lost out of the pack—or the cards marked—or in some unexplained sequence. Now this number 14 is a very important one. It is so important that it has been called the *standard deviation*. Frequently it is called the *dispersion*. It is our yard-stick for measuring departures from the expected, or mean value under analysis. It is, in general, not the same for different problems though in vital statistics for certain problems it may not vary much from year to year. We have applied it above when we supposed that 190 spades turned up. This was a departure of 60 from the mean value of 250 and our yardstick of 14 is contained in 60 about 4 times. For reasons which will not be discussed here, always be suspicious of values which depart from the mean by 3 or more times the standard deviation. Even departures of twice the standard deviation may possibly be suspicious—it is a matter of judgment to decide. But values of 3 or more times the dispersion are positively suspicious.

So far we have been working with pure chance and a pack of cards, assuming that each card is equally likely to be drawn. This assumption is necessary in vital statistics if we are to apply our yard-stick. It is of course not true that we all stand an equal chance of dying.

Chance Fluctuation of Numbers

Now let us work with a town of, say, 4,000 people. During the year 64 persons die and, therefore, 3,936 live. All persons are assumed equally likely to die—therefore the chance of dying is 64/4000. It is just as if we had a pack of 4,000 cards from which 64 are drawn. Now 64/4000=16/1000=.016. This is the decimal fraction expressing the chance of any particular person dying. Suppose we multiply it by 1,000.

There will result 16 (per thousand), an old and familiar friend—the death rate per 1,000 population. A *death rate* is therefore purely and simply a *probability* expressed in units of 1,000. The chance of living is 3936/4000=984/1,000=.984. Note that the sum of the chance of dying and living is .016+.984=1. One is certain either to live or die.

The mean number of deaths is 64 but we must expect some deviation. The standard deviation is, as above, the square root of the product of the probabilities multiplied by 4,000 or the square root of $.016 \times .984 \times 4{,}000 =$ the square root of $64 \times .984 =$ the square root of 64 (very nearly) $= \pm 8$. The probability of living is so nearly equal to 1 that it may be taken as such without introducing serious error. We have therefore merely extracted the square root of the number of deaths to get the standard deviation due to pure chance. The deaths will therefore be 64 ± 8, using the plus sign for hard luck and the minus sign for good luck.

Chance Fluctuation of Rates

With *rates* the method is a trifle more involved. Let us use the same town, 4,000 inhabitants and 64 deaths, giving a death rate of 16 per 1,000. We have seen that we might expect a variation or standard deviation of ± 8 deaths. Now these 8 deaths constitute 12.5 per cent of the 64. The same percentage applies to rates and 12.5 per cent of 16 is 2; therefore our rate is 16 ± 2 per 1,000 population. Our town has 4,000 inhabitants, so if we multiply by 4 we get 64 ± 8, just as we expect. That is all there is to it.

A Few Examples

Let us work some examples. In 1924 the typhoid deaths number 38 for the state. The square root of this is very nearly 6. Therefore we may expect 38 ± 6 deaths in 1925 if merely pure chance operates. These 6 deaths make up 16 per cent of the 38. The rate for Typhoid is 2.5 per 100,000 population; 16 per cent of 2.5 is 0.4. Therefore the rate is $2.5 \pm .4$. The probabilities involved in this case are: probability of dying of typhoid 0.000025 and of not dying 0.999975, which is very nearly 1.0

The deaths for the state from tuberculosis all forms, were 1,223, giving a death rate of 81.4 per 100,000 population. Extracting the square root of 1,223 gives very nearly 35. Therefore the numbers dying of tuberculosis may be expected to be $1{,}223 \pm 35$. Now 35 is 2.8 per cent of 1,223 and 2.8 per cent of the rate 81.4 is 2.3. Therefore the rate is 81.4 ± 2.3. Note that the rate may be in error by 2 whole points

due to the fluctuation of pure chance. It is therefore needless to print the decimal fraction—the rate should be printed 81. The decimal has no significance. The probabilities in this example are: Probability of dying of tuberculosis is 0.000814 and of not dying 0.999186.

There were 31,688 births and 2,176 infant deaths in 1924. The probability of an infant dying was therefore 2,176 divided by 31,688 or .0687 and of not dying it is .9313. The standard deviation of the numbers dying is therefore the square root of $.0687 \times .9313 \times 31{,}668 =$ the square root of $2{,}176 \times .9313 =$ the square root of $2{,}026 = \pm 45$, and 45 is about 2 per cent of 2,176. The infant mortality rate is 68.7 and 2 per cent of 68.7 is 1.4. The rate is therefore 68.7 ± 1.4 or, better, 69 ± 1.4. If we had merely extracted the square root of 2,176 and proceeded as in our other examples we should have arrived at the same result. Occasionally, one of the probabilities may not sufficiently approximate 1, and then both must be used in forming the product. But in this example no change would have resulted if .9313 had been taken as 1.

Vital Statistics

MONTH OF JUNE, 1925

Births

During the month 2,406 births were reported, a decrease of 242 when compared with the 2,648 reported in 1924. The mean number of births for the month is 2,601$\pm$53 figured for the last 6 years. A year ago when the article was written for the month the births were 2,491. Late and delinquent reports increased this to 2,648 or an increase of 6 per cent. The month for 1925 is 195 below the mean but if the births are to be increased by the same percentage as in 1924 there will be added 144 to make 1925 but 51 below the mean. The Standard Deviation of the mean is $\pm$53, so with the increase which may be expected, 1925 is not significantly below the mean.

Of the 47 towns over 5,000 in population, 20 reported more births in 1925 than in 1924, but of these 20 only 1, New Britain, reported an increase of more than 10 and in New Britain the increase was 20. It is of interest to note that the variation of practically every town is within the limits of twice the chance fluctuation and therefore not of statistical significance. The increase of 20 for New Britain is of no significance since an increase of 12 might have been expected to result from pure chance.

In 1925 101 stillbirths were reported as compared with 96 in 1924, an increase of 5. The rate of stillbirths is 40.3$\pm$4.0 per 1,000 total births in 1925, and it was 37.1$\pm$3.7 in 1924. The difference of these rates is 3.2$\pm$5.0, showing that the increase is not significant.

Deaths

The deaths number 1,368 or 70 more than the 1,298 reported in 1924. As an increase or decrease of about 37 might have been expected, this increase is not alarming.

Below is given a tabulation of certain diseases to exhibit the increase or decrease of 1925 and 1924 compared.

CAUSE OF DEATH	1925	1924	INCREASE	DECREASE
Diseases of the Heart	204	191	13	....
Epidemic Encephalitis	7	4	3	....
Pneumonia Undefined	3	3	....	....
Typhoid Fever	0	3	....	3
Measles	6	5	1	....
Scarlet Fever	2	4	....	2
Whooping Cough	10	4	6	....
Diphtheria	8	10	....	2
Influenza	15	12	3	....
Tuberculosis, Pulmonary	94	110	....	16
Tuberculosis, Other Forms	12	10	2	....
Cancer	128	125	3	....
Cerebrospinal Meningitis	2	2	....	....
Poliomyelitis	1	0	1	....
Pneumonia, Lobar	34	37	....	3
Pneumonia, Broncho	35	52	....	17
Diarrhoea and Enteritis, Under 2	20	16	4	....
Puerperal Diseases	14	12	2	....
Accident	140	98	42	....
Suicide	18	9	9	....
Homicide	3	4	....	1
Other Causes	612	587	25	....
Total	1368	1298	114	44

The increases due to Accidents appear to be significant when estimated from the chance flucuations for 1924 and 1925. The increase in suicides is on the border line of significance, as in the decrease in Broncho Pneumonia. Of the accidental deaths 32 were due to automobile accidents compared with 23 in 1924, an increase of 9. A chance fluctuation of about ±5 might be expected. The particular significance seems to be that the variation is always *positive*. Pure chance may be either positive or negative.

The deaths from Excessive Heat are also included in the deaths due to accident. These number 42 for the month, by strange coincidence exactly equal to the increase in accidental deaths. For the city of Hartford the heat was excessive from June 3rd to 7th both inclusive and was quite general over the State. The mean *maximum* temperature for the month was 82°.3 and for 1924 it was 75°.9, an increase of 6°.4. The mean temperature for the month was 71°.4. For the past 21 years the mean temperature for the month was 67°.1±0.43. The increase of 4.3 is significant. The precipitation was 3.38 inches compared with 3.08 normal.

Infant Mortality

Despite the excessive heat the infant mortality was lower than for any corresponding month in the past 6 years. The rate was only 51.5.

Marriages

Reports of 1,707 marriages were received, a decrease of 242 from 1,949 reported in 1924. The mean number of marriages over the period 1920-1925 is 1,906±73. The month is therefore 199 below the average. But the Standard Deviation of the six years is ±161, showing considerable scattering about the mean.

For Six Years—June, 1920-1925

CONNECTICUT	1920	1921	1922	1923	1924	1925
BIRTHS	2754	2744	2491	2564	2648	2406
Birth Rate	23.7	23.2	20.6	20.9	21.2	18.9
MARRIAGES	2117	1911	1691	2061	1949	1707
Marriage Rate	18.2	16.1	14.0	16.8	15.5	13.4
DEATHS	1306	1216	1175	1314	1298	1368
Death Rate	11.2	10.3	9.7	10.7	10.4	10.7
COMMUNICABLE DIS.* DEATHS	181	156	150	144	150	138
Per Cent to Total Deaths	13.9	12.8	12.7	11.0	11.6	10.1
DEATHS UNDER 1 YEAR	208	162	153	187	162	131
Rate per 1000 births	73.0	57.0	59.1	73.1	61.2	51.5

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

Towns not reporting

June, 1925

Births

Bozrah
Canaan
Cornwall
Franklin
Marlborough
Milford
North Stonington
Plainville
Warren

Marriages

Bolton
Cornwall
Durham
Franklin
Granby
Marlborough
Milford
Plainville
Warren

Deaths

Cornwall
Franklin
Milford
Plainville
Warren
Washington
Windsor Locks

Births, Marriages and Deaths

June, 1925 Statistics

	Population Est. as of July 1, 1925 Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Still Births	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,529,688	2406	101	1707	1368	10.7	0.7	51.5	131	60	501
Ansonia	19,034	14	1	17	10	6.3	0.6	39.9	1	1	1
Branford	6,954	10	1	6	5	8.6	....	....	....	....	3
Bridgeport	166,644	250	10	170	108	7.8	1.1	29.3	8	7	31
Bristol	24,621	51	5	31	15	7.3	0.5	99.5	5	....	3
Danbury	21,931	46	....	28	43	23.5	2.7	116.0	5	1	13
Derby	12,500	41	2	13	9	8.6	....	54.4	2	1	3
East Hartford	13,616	12	....	9	9	7.9	....	161.1	2	1	2
Enfield	12,834	25	1	29	8	7.5	....	81.1	2	1	3
Fairfield	14,490	19	....	15	6	5.0	0.8	....	....	....	2
Glastonbury	6,042	4	....	2	2	4.0	4.0	....	....	....	1
Greenwich	25,207	42	3	90	19	9.0	....	50.4	2	2	4
Groton	10,764	5	....	8	6	6.7	....	....	....	1	5
Hamden	10,150	11	1	15	10	11.8	....	122.4	2	....	1
Hartford	160,199	314	14	190	158	11.8	0.6	38.6	13	7	56
Killingly	9,051	14	....	10	7	9.3	1.3	61.2	1	....	2
Manchester	21,018	48	1	20	18	10.3	0.6	52.5	2	1	6
Meriden	36,251	66	3	53	36	11.9	1.7	17.2	1	1	17
Middletown	22,649	36	....	27	50	26.5	....	39.9	2	2	27
Milford	13,473	....	....	....	....	....	....	....	....	....	....
Naugatuck	16,350	15	1	21	7	5.1	....	71.4	1	1	4
New Britain	67,896	137	8	98	40	7.1	1.1	51.0	7	2	18
New Haven	178,735	323	15	165	171	11.5	0.4	35.8	12	12	63
New London	29,003	52	3	36	39	16.1	....	46.4	3	4	14
Norwalk	29,596	48	5	41	35	14.2	0.4	34.0	2	1	14
Norwich	30,425	70	1	47	38	15.0	2.0	43.6	3	3	12
Plainfield	8,570	10	4	16	10	14.0	....	345.3	4	....	4
Plymouth	6,349	4	1	8	4	7.6	....	....	....	....	3
Putnam	8,990	10	....	11	13	17.4	1.3	52.4	1	....	4
Seymour	7,911	4	....	5	2	3.0	....	....	....	....	1
Shelton	11,134	9	....	7	10	10.8	....	....	....	....	1
Southington	9,529	10	....	14	7	8.8	....	....	....	....	4
Stafford	5,457	20	....	5	5	11.0	....	....	....	1	3
Stamford	46,218	100	4	72	39	10.1	0.5	30.6	3	1	8
Stonington	10,819	16	1	12	5	5.5	....	....	....	....	2
Stratford	16,085	19	....	8	7	5.2	....	51.5	1	....	2
Thompson	5,196	8	....	6	3	6.9	....	....	....	....	1
Torrington	24,492	37	....	25	10	4.9	....	45.3	2	1	4
Vernon	8,822	15	....	15	7	9.5	....	192.0	2	....	3
Wallingford	12,483	13	....	3	11	10.6	1.0	....	....	....	8
Waterbury	102,134	170	5	93	82	9.6	0.6	59.3	12	4	14
Watertown	7,192	6	....	6	2	3.3	....	....	....	....	....
West Hartford	11,146	8	....	11	18	19.4	1.1	439.7	7	....	5
West Haven	17,834	31	1	19	26	17.5	....	58.7	2	....	5
Westport	5,597	4	....	3	8	17.2	2.1	160.0	1	....	2
Winchester	9,129	12	....	10	8	10.5	....	53.6	1	1	5
Windham	14,368	38	2	9	17	14.2	....	138.7	4	....	6
Windsor	6,436	2	....	1	5	9.3	....	....	....	....	....
Towns under 5,000	209,346	207	8	207	220	12.6	0.9	59.5	15	3	111

for the month of June, 1925

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
204	7	3		6	2	10	8	15	94	12	128	2	1	34	35	20	14	140	18	3	481	244
		1			1				1				1			1		1	1			
1											1										1	2
18	1			1			1		12		9	1		1	7	1		9	1		51	9
								1	1		3					1		2			1	
3	1							1	2		5			1			1	7	1		19	9
3																		2			4	3
2											1							2				2
1								1			2				1			1			1	
1									1									1				
2																						
1		1						1		1	3			1				3			7	3
1	1										1											
1						1												1	1			
21	1					1			7	3	25			3	3	1	2	22			77	30
1									1							1						1
3									1		3							3			4	3
8								1	2		2			1				4			8	5
9						1			4		2				4			7			35	30
2																						
5				2			1				4			2	1	2	1	8		1	10	2
25				3		3	3	1	3	1	13	1		7	6		2	10	5		81	27
12						1				2	4					1		2			15	6
6									1		4			2	2		1	2			6	1
2						1	1		9	1	4			1	2		1	5			12	8
											1						1	1				
1											2							1				1
3									1		1			1			2				5	4
1																						
					1				7												7	7
1											2							1	1			
1																1					1	
9							1		1		4			1				8	2		17	8
2																			1			
2								1			1											
1														1							1	
										1	2			1		1		1			4	2
3											1					2						
2									1		2				1						2	
6	2						1	4	4	1	8			4	2	2	1	8		1	37	8
1																						2
1								3	1		1				1	2					13	4
3									9					1				4			9	10
3									1		1								1		3	2
1														1							4	2
1	1													1	1	1	2	2			7	5
														1				3				2
34		1				2		1	24	2	16			3	4	3		19	4	1	39	46

Preventable Diseases

THE CAUSE OF CANCER

The cause of cancer is still a mystery. Nobody has yet solved it. Recent reports of discoveries and theories as to the cause of cancer have been given widespread publicity. Those who have followed the many theories or so-called discoveries concerning the cause of cancer during the last few years will await proof and confirmation before accepting any such report now.

New Discoveries

The most widely heralded of the recent discoveries concerning the cause of cancer is that by Dr. Wm. E. Gye of London. Dr. Gye was assisted in this work by J. E. Barnard, also of London, who by improvements on the microscope has made it possible to study smaller objects than could heretofore be made visible. Articles by both men on their respective phases of the work occur in the Lancet for July 18, 1925.

Dr. Gye reports having isolated an organism from a certain kind of cancer in chickens which he regards as the cause of this particular type of cancer. The tumor involved is a chicken sarcoma known as the Rous cancer because it is the type studied by Dr. Peyton Rous at the Rockefeller Institute several years ago. Dr. Rous found that he could produce this type of tumor by inoculation and that the dried tumor substance would serve to produce the tumor in other chickens. By isolating an organism from this type of tumor Dr. Gye completes and confirms the brilliant work done by Dr. Rous. Dr. Gye also reports having obtained a factor which can replace the virus in producing Rous cancer in chickens, from mammalian tumors, including a mouse sarcoma, a mouse carcinoma, and in one instance a human breast carcinoma.

Two Factors Concerned in Cancer

But the most interesting and probably the most important contribution Gye has made to cancer research is the evidence developed to show that two factors are concerned in the production of cancer. One is a particulate factor, the organism or virus isolated and studied, and the other or accessory factor is regarded as a chemical substance derived from the tumor cells. This accessory chemical substance is strictly specific for species. The same virus may be effective in different species of animals, but the accessory substance from an animal of one species will not be effective in animals of another

species. There may also be specificity for kind of tissue, but this has not yet been proven. Only sarcomas have been produced experimentally.

The organism isolated by Dr. Gye belongs to the group of ultra-microscopic organisms. They are too small to be seen by the ordinary microscope. The improvements on the microsope made by Barnard appear to have extended the field of microscopic vision so as to bring this organism within the realm of visibility. Making the organism visible was a great aid in its study. However important Dr. Gye's work may be it must be confirmed by other investigators before it is accepted by the scientific world. In case it is confirmed it will be another landmark in the conquest of cancer.

Modern Cancer Research

Dr. Gye's work follows in logical order other landmarks in modern cancer research. First there was the discovery by Bashford that something may pass out from a carcinoma cell that induces neighboring connective tissue to become sarcomatous. Then came the discovery of the Rous chicken tumor, and later the production of experimental tar cancer by Yamagiwa and Ishikawa. The isolation of the organism is another step forward. The evidence that an accessory chemical substance is also necessary for the production of a tumor opens up an avenue for further research, provided these findings are confirmed by others

There is nothing final in Dr. Gye's work. At best it merely points the way toward a possible solution of a baffling problem. There is nothing in the discovery immediately applicable to the problem of cancer prevention. In this regard we are left where we were before. The road to prevention still lies along the line of avoiding or removing chronic irritations, and the road to cure must still start with early diagnosis and proceed through a course of prompt treatment on the advice of a surgeon.

That Dr. Gye's work will stimulate research along the line of the possible germ cause of cancer may be taken for granted. The improved microscope devised by Barnard may be found of value in the study of other diseases caused by ultra-microscopic organisms classed as filtrable viruses because they are so small in size that they pass through a porcelain filter. Thus we may expect a renewed study of poliomyelitis, encephalitis lethargica, measles, smallpox, chickenpox and other diseases of as yet unknown cause.

A theory concerning the cause of cancer sponsored by Sir William Arbuthnot Lane, a noted English surgeon, has recently been given widespread publicity but perhaps it attracted less attention than the reported isolation of the organism.

His theory is not accepted by experts in the cancer field, but Sir William's attainments are such as will warrant attention to ideas he sets forth.

Cancer may Follow Chronic Irritation

We know that certain forms of cancer are associated with chronic local irritation by chemicals such as anilin, arsenic, tar and soot and that occasionally cancer follows chronic X-Ray burns. The poisonous agents concerned with these rare forms of cancer must usually be applied for a long period of time before cancer develops. For example, cancer appears in a chimney sweep ten, twenty or thirty years after he has begun handling soot. We know also that cancer of the lip may develop after years of irritation of the lip by a hot pipe stem. In fact the only thing we really know about the cause of cancer is that often it seems to develop in a site subject to chronic irritation extending over a long period of time.

According to Sir William's view an important if not the chief factor in causing cancer is the habit of permitting the residue from food materials to remain in the body longer than it should. As a result there is set up a local irritation and slow poisoning of the body which when it shows acute symptoms is called autointoxication. It is contended by those who favor this view that when the body is subjected to this slow poisoning process for twenty, thirty or forty years, the resulting chronic irritation may induce indigestions of various sorts, gastric ulcers and appendicitis as well as cancer. It is said also that all of these are diseases of civilization and occur among uncivilized peoples only when unnatural food and living conditions are imposed upon them.

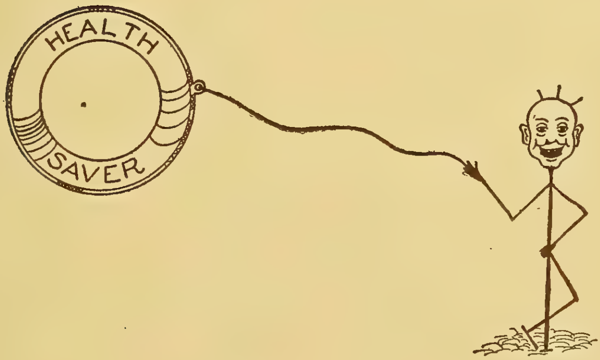
It must be admitted that Dr. Lane's theory is not inconsistent with our present knowledge of cancer. We know that in somes instances cancer follows chronic irritation and this theory provides a possible source of irritation in some cases where such source is not now known. It does not, however, account for that form of cancer known as sarcoma which occurs in the young.

One might be tempted to ask whether the organisms described by Gye and the toxins suggested by Lane may not both be concerned in the production of cancer. As a matter of speculation it might be considered possible for a slow poisoning by toxins absorbed from the alimentary tract to so reduce the tissue's resistance as to permit organisms to grow that otherwise would perish. Thus one might imagine it entirely possible for both these agencies, a microorganism and toxins, to be concerned in causing cancer. The toxin or toxins correspond to the accessory factor described by Gye. If the accumulation of such toxin in the tissues should result from lack of water to carry off tissue waste, Lane's theory

would appear to supplement Gye's work and harmonize with his conclusions. While such a process would not be inconsistent with our present knowledge of cancer, due caution requires waiting till new views are confirmed before accepting them.

Preventive Measures

It is worthy of note, however, that the toxin theory as to the cause of cancer clearly opens the way for direct preventive measures. According to this view prevention would require a modification of present day habits and diets, and especially relief from the chronic intestinal stasis or constipation that is so common in civilized life. It is readily understood how exposure to slow poisoning by intestinal toxins for many years may so lower the body's resistance as to make it more susceptible to a number of diseases. It is not necessary to include cancer in this group in order to furnish ample reason for abandoning the habit of constipation at the earliest possible date.



According to the present upward trend of cancer deaths more than one in eight of all Connecticut citizens who reach the age of 50 may expect to die of cancer.

INCIDENCE OF DISEASE FOR MONTH OF JULY, 1925

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of July, 1925 with the corresponding month for the years 1920, 1921, 1922, 1923 and 1924.

DISEASES	Average 1920-1924 for July	Mean 1920-1924 for July	1920	1921	1922	1923	1924	1925
Cerebrospinal Meningitis ..	8	9	9	11	6	9	5	2
Diphtheria	133	132	148	149	111	127	132	80
Encephalitis Epidemic	4	5	......	5	3	7	3	4
Measles	278	258	224	147	502	258	261	358
Poliomyelitis	8	9	2	13	1	9	15	8
Scarlet fever	118	123	125	146	80	115	123	75
Smallpox	8	......	......	......	11	......	27	......
Typhoid	38	28	20	53	63	28	24	17
Tuberculosis (pulmonary)	148	143	166	157	143	133	142	113
Whooping Cough	261	225	380	225	201	289	212	410

A comparison of the morbidity on these diseases for the two preceding months, May and June with the July record is as follows:

	May	June	July
Cerebrospinal Meningitis	4	1	2
Diphtheria	103	123	80
Encephalitis Epidemic	5	6	4
Measles	985	1049	358
Poliomyelitis	1	1	8
Scarlet fever	362	180	75
Smallpox	2	......	......
Typhoid fever	19	14	17
Tuberculosis (pulmonary)	104	137	113
Whooping Cough	481	458	410

Cases of Certain Other Reportable Diseases

Chickenpox	60
Conjunctivitis Infectious	1
Encephalitis Epidemic	4
German Measles	17
Influenza	9
Malaria	10
Mumps	30
Pneumonia (Broncho)	32
Tetanus	5
Trichinosis	1
Gonorrhoea	114
Syphilis	79
Total	362

Cases of Occupational Diseases

Acne	1
Dermatitis	2
Dermatitis Medicamentosa	1
Irritative Dermatitis	1
Lead Poisoning	3
Mercury Poisoning	3
Pustular Dermatitis	1
Total	12

Cases of Certain Reportable Diseases

July, 1925	Population Est. as of July 1, 1925	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Cerebrospinal Meningitis	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com Diseases
State Total	1,529,688	17	358	75	410	80	2	8	113	19	44	362
NEW HAVEN CO.	**459,157**	**12**	**96**	**18**	**188**	**25**		**1**	**48**	**4**	**8**	**131**
New Haven	178,735	4	60	10	73	3			25	3	2	53
Waterbury	102,134	1	3	4	11	12			14		3	29
Meriden (city and town)	36,251			2	24	3			6	1	3	23
Ansonia	19,034					1						
West Haven	17,834	1	18		2			1	1			7
Naugatuck	16,350											2
Wallingford (town and boro)	12,483		1			1						
Milford	13,473				1							1
Derby	12,500											
Hamden	10,150	6	4		13	2			1			5
Branford (town and boro)	6,954					1			1			2
Seymour	7,911											
Towns under 5,000	25,348		10	2	64	2						9
FAIRFIELD CO.	**363,740**	**3**	**45**	**31**	**38**	**22**		**5**	**22**	**2**	**10**	**48**
Bridgeport	166,644	1	11	14	5	15			16		5	27
Stamford (city and town)	46,218	1	25	5	8	2			2			3
Norwalk	29,596		5	3	2	3		2				6
Danbury (city and town)	21,931			1					1	1		
Greenwich (town and boro)	25,207	1	1	2	7			1		1	4	9
Stratford	16,085			4				1				1
Fairfield	14,490								1		1	
Shelton	11,134		1	2				1				
Westport	5,597											2
Towns under 5,000	26,838		2		16	2			2			
HARTFORD CO.	**384,608**	**1**	**64**	**12**	**59**	**16**	**2**		**25**	**8**	**21**	**113**
Hartford	160,199	1	7	5	37	8			11	4	4	65
New Britain	67,896		12	4	5	1	2		7	2	9	20
Bristol (city and town)	24,621		1	1					1	1	1	3
Manchester	21,018			2		1			1		1	7
Enfield	12,834					1			1			3
East Hartford	13,616											4
Southington (town and boro)	9,529		4			1			2			3
West Hartford	11,146		4		8	2					3	2
Windsor	6,436											
Glastonbury	6,042				4				1	1		
Towns under 5,000	46,253		36		5	2			1		3	6
NEW LONDON CO.	**112,155**		**4**	**3**	**61**	**3**		**2**	**12**	**2**	**2**	**25**
Norwich (city and town)	30,425					3			4			
New London	29,003		2	1	10				3	2		15
Stonington (town and boro)	10,819		1					2	4			
Groton (town and boro)	10,764			2	8							2
Towns under 5,000	31,144		1		43				1		2	8
LITCHFIELD CO.	**79,851**		**9**	**1**	**10**	**8**			**1**	**1**	**2**	**7**
Torrington (town and boro)	24,492											
Winchester (inc. Winsted)	9,129											
Plymouth	6,349					1			1			2
Watertown	7,192											1
Towns under 5,000	36,689		9	1	10	7				1	2	4
WINDHAM CO.	**55,360**	**1**	**34**	**1**	**2**	**1**			**1**	**1**	**1**	**14**
Windham (inc. Willimantic)	14,368			1						1		1
Putnam (city and town)	8,990	1	1								1	7
Plainfield	8,570											
Killingly (inc. Danielson)	9,051		31			1						2
Thompson	5,196								1			
Towns under 5,000	9,185		2		2							4
MIDDLESEX CO.	**47,152**		**103**	**3**	**52**	**2**			**2**			**18**
Middletown (city and town)	22,649		95		18	1						13
Middletown State Hospital									2			
Towns under 5,000	24,503		8	3	34	1						5
TOLLAND CO.	**27,665**		**3**	**6**		**3**			**2**	**1**		**6**
Vernon (inc. Rockville)	8,822			4		1						
Stafford (town and boro)	5,457		2							1		2
Towns under 5,000	13,386		1	2		2			2			4

FOOD IN THE HOUSE REFRIGERATOR*

The family refrigerator has been weighed in the balance as an effective agent in the keeping quality of foods through a recent investigation carried on at Teachers College. Report of this appeared in the November issue of the "Record." The experiments were carried on jointly in the departments of biology and cookery, covering many weeks of time.

What about the construction of a house refrigerator?

What temperature is maintained and what is its range?

What part does humidity play?

How do these factors influence the growth of bacteria in foods stored there?

These are some of the questions which claimed the attention of the investigators, and their findings are discussed under such headings as "Refrigerator Construction," "Temperature Range and Constancy," "Relative Humidity" and "Bacterial Increase."

Construction

Three types of refrigerators were studied, two zinc-lined boxes, one (a) connected with a brine refrigerator system, and one (b) with an ice chamber; and (c) a box of thick porous wood whose outer and inner surfaces were coated with an artificial stone or cement white enameled, in which ice was used. As the doors to the ice chamber in (a) and (c) opened in the front it was estimated that more of their coldest air was lost than in (b) whose ice chamber door opened from above. Air circulation was carefully checked in each case.

In (a) and (b) air circulated quite freely through the shelves which consisted of metal strips set one inch apart. However, the movement of air was interrupted somewhat by the enclosed ice chamber which was either solid or very nearly so. In (c) constant and complete circulation of air was effected by means of a wire mesh inner lining to the ice chamber, and wire mesh shelves, as well as by an isulated baffle opened top and bottom in the ice chamber, which encouraged a free movement of air down and around the ice up through the opposite side and down over the ice again.

*By Jean Broadhurst, Associate Professor of Biology, and May B. Van Arsdale, Professor of Household Arts, Teachers College. This article appeared first in Nation's Health, September, 1924.

Temperature

Themometers used were of three kinds, each being carefully checked with standard thermometers to assure accuracy of results. Readings were made three times a day with the following results.

In (a) the brine coil refrigerator, a wide range of temperature prevailed, from 26° to 62° F. Because of these fluctuations it was deemed inadvisable to continue the use of this for the subsequent experiments whose accuracy depended upon a more constant temperature. It was stated however, that this was not a reflection on this type of refrigerator but rather a criticism of the control of this particular refrigerating system.

The (b) type of ice box gave a higher range of temperature from 46° to 65° F., with a narrower range, 46° to 55° F., on the coldest shelf which was the top one immediately below the ice chamber.

In (c) ice box the temperature ranged from 36° on the coldest shelf, to 64° F. on the warmest shelf. In this case the coldest was the lowest shelf. When filled with ice the warmest shelf did not rise above 50°—52° F. Thus, with less fluctuation of temperature, this became the most reliable type of refrigerator with which to conduct the experiments.

Humidity

Very delicate tests were devised for a study of the humidity in the air in each of the refrigerators. These involved the use of two dilutions of sulphuric acid, one strong enough to absorb water from the surrounding air, and one weak enough to lose water to the air. By checking these weight variations of the acid, as water was lost or gained, with specially prepared tables of specific gravity and vapor tension it was possible to determine the relative humidity in the surrounding air space.

Fluctuations in temperature and changing ratio between temperature and humidity, made it necessary to eliminate (a) and (b) from the experiment and complete the work with (c) refrigerator which, because of its more constant and complete circulation, gave more definite and stable preliminary tests. To quote from the authors in this connection "In (c), as the air around the ice becomes cooled, it passes down around and thorough the ice chamber, becoming not only colder thereby, but, due to chilling, of a higher relative humidity, and so starts its circulation around the ice box at its maximum relative humidity. With sufficient ice to give prolonged control of air and ice, a fairly constant initial

temperature and humidity are possible. Since as the temperature gradually increases the relative humidity gradually decreases, the various shelves in this refrigerator tended to be quite constant not only in temperature but in relative humidity. In other words, with complete circulation, (no dead air spaces even in the ice chambers), both the moisture and heat content of the air are constantly and evenly modified by contact with the ice, and the relative humidity as well as temperature is stabilized."

By this method fairly stable humidity readings were made in (c), averages of which are given in the table below.

Correlated Temperatures and Humidities in Refrigerator C

Average Temperature	Original Acid Strength	Corrected Acid Strength	Mean Relative Humidity
Warmest Shelf: 55.8° F.	High: 68.6	65.29	20.83%
	Low: 52.92	53.51	
Middle Shelf: 53.5° F.	High: 52.92	52.50	40.49%
	Low: 42.4	44.07	
Coldest Shelf: 42.5° F.	High: 42.4	41.2	61.4 %
	Low: 33.8	34.5	

Since it is the amount of water left in the chilled air after contact with the ice that limits the relative humidities in the warmer parts of the refrigerator, complete circulation may lower the relative humidity. This in turn influences the growth of bacteria present in the food, 75 per cent humidity, or higher being favorable to bacterial growth. On the other hand low temperatures which run parallel to high humidities, arrest the growth of bacteria, so temperature in a refrigerator, is a more important factor than humidity in the keeping quality of foods.

Bacterial Increase

Up to this point work was all preliminary to the real investigation, the purpose of which was to determine the rate of increase of bacteria in foods when stored for certain periods under known conditions.

Conduct of the experiment included the use of foods representative of those commonly found in the home. Among these were such foods as milk, cream soup, meat broths, and gelatine dishes. A bacterial count was made in each of these foods, two methods being used direct, and plate count.

"Direct counts were made from duplicate slides, standardized loopfuls being placed on a two-square-centimeter area an average of twenty fields being counted with the sliding scale. All plate counts were the average of duplicate plates from each of three or more dilutions." Initial direct and plate counts were made for each of the foods, and these were repeated periodically during the six experimental days. Previous to this an experiment, like in every detail, had been carried on with special bacterial solutions, to judge of the rate of increase of known organisms at temperatures prevailing in the house refrigerator. It was hoped to use these results as controls, but other factors had to be reckoned with, such as the chance organisms present in foods, and mixed organisms. Chance organisms often grow favorably at temperatures quite different from those favorable to known organisms. Mixed organisms give unexpected results since they react on each other, their waste products often being neutralized, thus favoring growth which ordinarily might have been retarded by such waste products. Difference in consistency of the different foods seems to have played a part in the later plate counts, which, contrary to expectation, were larger than in the direct count. In a few cases the initial count was so low that it seemed justifiable to expose them to air for several hours, or add a slight amount of tap water, conditions which might easily prevail in the home. Since it was not the initial count which was being studied but the rate of growth, this in no way interfered with the experiment.

It has previously been stated that refrigerators (a) and (b) were discarded early in the experiment since the conditions prevailing in each were not stable enough to give accurate results. So refrigerator (c) was used throughout. The The results of this study as tabulated by the authors presented such details as original bacterial count per cubic centimeter, temperature range, and rates of increase in 24-48 hours, 72-86 hours, and 120-144 hours respectively.

This is summarized in the following table:

Comparison of Bacterial Changes, As indicated by Taste* and Numerical Increase

Substance	Original Bacteria Count Direct	Time Days	Standards	Temperature (1) Warmest Shelf	(2) Middle Shelf	(3) Coldest Shelf
Pea soup	312,000	5	Taste	Very sour Bad odor	Sour Not so bad as (1)	Sour Musty odor
			Rate of Increase	X2500	X600	X450
Aspargus soup	640,000	5	Taste	Passable Slightly sour	Good Fair	Good Salty
			Rate of Increase	X700	X36	X35
Raspberry Jello	1,800	5	Taste	Good	Good	Good
			Rate of Increase	X90	X70	X58
Lemon Gelatin	1,500	7	Taste	Good More acid	Good Not so acid	Good Not so acid
			Rate of Increase	X132	X170	X65
Chicken soup	300	5	Taste	Good Palatable	Good Palatable	Good Palatable
			Rate of Increase	X1400	X1070	X50
Veal soup	900	5	Taste	Palatable	Palatable	Palatable
			Rate of Increase	X1410	X1420	X168
Pea soup	2,500	5	Taste	Fair	Not so good as (1) Fair	Not so good as (2) Palatable
			Rate of Increase	X9140	X15	X9
Veal Broth	160,000	5	Taste	Rancid Moldy Taste Bad odor	Better than (1) Moldy Will pass	Not so good as (1) Moldy Palatable
			Rate of Increase	X375	X237	X1500

* It will be noted that taste is also included. As appearance and taste are frequently the guiding factors in judging of the spoilage of food, these foods were all subjected to impartial judges at the point where new bacterial counts were made, "to see if any relationship could be demonstrated between bacterial increase and food spoilage." This seems to correspond fairly well except in a few cases where the type and not the increase in bacteria may have influenced the taste. Tests for acidity were also made at different stages, but changes did not run parallel to bacterial increase, no doubt due to the mixed nature of the organisms. *This summary gives convincing proof of the advisability of using age and not apparent condition as the reason for discarding food stored in the refrigerator.*

Conclusions

Finally, since safe food plays such an important part in the health of the family, the following recommendations are presented as a guide for the housewife.

"1. House refrigerators should be constructed to insure constant and complete air circulation. No dead spaces or air pockets should be allowed.

2. The ice chamber should be large and kept well stocked; the larger the ice surface the more contact there is with the circulating air, and the greater the effect upon the air.

3. Thermometers should be supplied for the warmest and coldest shelves at least. Milk should be kept at temperatures below 45° F. Temperatures of 60° or more mean that the ice box in acting as an incubator rather than a refrigerator.

4. Since cold air is relatively heavier than warm air, careless management of the doors may allow much of the cooled air to fall out of the box. Watch the thermometer to verify this.

5. Milk and similar foods should be kept as cool as possible and used as fresh as possible. The warmer the shelf and the longer the stay in the refrigerator, the greater the bacterial content and deterioration of the food. Such bacterial changes are not without danger to the consumers, especially to babies, using stale milk."

Laboratories

REPORT OF THE BUREAU OF LABORATORIES FOR JULY, 1925

DIAGNOSTIC

	+	—	?	Total	
Typhoid					
Blood for Widal	5	38	....	43	
Feces	....	35	....	35	
Urine	....	37	....	37	
Paratyphoid A					
Blood for Widal	....	43	....	43	
Feces	....	35	....	35	
Urine	....	37	....	37	
Paratyphoid B					
Blood for Widal	....	43	....	43	
Feces	....	35	....	35	
Urine	1	36	....	37	
Diphtheria Cultures					
Diagnosis	44	228	....	272	
Release	12	103	....	115	
Diphtheria Carriers					
Diagnosis	....	....	....	....	
Release	2	24	....	26	
Diphtheria Virulence	3	13	....	16	
Vincent's Angina	1	276	....	277	
Haemolytic Streptococci	....	274	....	274	
Tuberculosis					
Sputum preparations	20	73	....	93	
Spinal fluid	....	1	....	1	
Syphilis	140	1260	121	1521	
Colloidal Gold Test for Spinal Fluids	3	8	....	11	
Gonorrhoea	26	83	....	109	
Malaria	....	4	....	4	
Rabies	3	3	....	6	
Feces					
Parasites	......	1	....	1	
Special specimens	49	5	....	54	3125

CHEMICAL AND BACTERIOLOGICAL

Towns sending milk samples	23	....	....
Milk samples tested	....	321	....
Milk samples below fat standard	27	....	....
Milk samples indicating watering	5	....	....
Towns sending water samples	114	....	....
Water samples tested	....	301	622
Total number of examinations made			3747

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 39 September, 1925 No. 9

This Issue Contains

STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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CONNECTICUT STATE DEPARTMENT OF HEALTH
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CONNECTICUT
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A FULL MEASURE OF HEALTH

By Elizabeth C. Nickerson

To possess health is not only considered "good form" today, but an economic measure as well, for adults are coming to a realization that without health, accomplishment is arrested if not actually put to an end. Time was when health was indicated only by apparent freedom from disease, and the value of it was appreciated only after its disappearance. The medical profession bear witness to this changed attitude when they acknowledge the balance of their effort to be now on the preventive rather than the curative side.

This growing tendency to focus attention on health *per se* is due to the widespread interest in a periodic health examination. This idea was suggested as early as 1,900 when it was advocated for life insurance policy holders as a protective and economic measure. It has since developed into a "movement" to promote health. In 1914 The Life Extension Institute was organized for this purpose and has 250,000 examinations to its credit up to the present time. More recently the movement gained momentum when it was sponsored by the American Medical Association and the National Health Council. State and local organizations have been quick to grasp the significance of this heath program since it meant improved community health through an awakened individual health consciouness.

What It Means

The health examination indicates the measure of one's health. It is not a superficial estimate, but an appraisal of health assets, through a thorough sounding of all parts of the body by a competent physician. It is like in every respect to the physical examination given the infant and the preschool child, the value of which has been plainly demonstrated to parents, since it has enabled them to watch the health progress

of their children during the growing period. That a frequent health examination for children is an essential is well recognized now all over the country.

It has just as great significance to adults. Their daily lives are so heavily charged with the demands of present day activities that the weakest part of the body is apt to succumb under the load. This is not apparent at first, but may develop so gradually that a sudden collapse is the first indication of danger. How often has one been startled by a sudden death of a friend, or a sudden change from apparent robust health to a serious illness. The sudden death may have been caused by a functional or organic disorder of the heart, unsuspected by the person himself, but preventable since a physical examination would have revealed it earlier and a new program of living could have been mapped out to conform to this disability. The illness which resulted so suddenly may have been developing for many years as a particular organ was subjected to increasing strain. This, too, might have been prevented since a physical examination might have revealed the disorder in its incipiency and, by proper care, have been checked in its development. So a physical examination means the detection of beginning physical disorders with recommendations for their correction so that further development may be arrested. Or, it gives assurance that "all is well on the inside," and so confidence that one's daily program of life is a healthy one, and may be continued without change.

What It Is

In order to evaluate the health of a community, or state, or a country it is wise to adopt similar procedure. So examination forms have been devised by leading health authorities which are alike in most details but with minor changes as emphasis of certain parts followed the trend of opinion in one locality or another. All are agreed on the importance of a careful examination of such special organs as eyes, ears, heart, lungs, liver, spleen, kidneys, and genitals. The throat is carefully examined for enlarged or diseased tonsils, and the teeth for malocclusion, dental caries or unhealthy gums. The superficial glands are noted, and the bony parts for orthopedic defects.

The abdominal examination is valuable as this often reveals the seat of physical disability. The examination of urine is made routinely, and often feces, as well, as these are true indicators of metabolism. Taking the blood pressure forms an important part of the examination which often includes, as well, a blood count. Such an examination, thorough in every

detail cannot be done in less than an hour. When completed, and the results interpreted in relation to the whole, certain points will usually be indicated whereby general health may be improved. Or, some specific condition may be plainly evident which, by being corrected at once, may avert a more serious disorder, one which surely would have developed had not the physical examination revealed it. Normal health means normal functioning of all the organs of the body and perfect coordination of each intricate part.

No small part of the physical examination is the personal history, as to habits of hygiene—rest, food, and exercise, the atmosphere of home and working hours, mental attitude, previous medical history, and special information which may give a clue to some condition revealed by the examination but not explained by the physical findings.

An examination blank has been devised by the Connecticut State Department of Health and is available to the medical profession in the state for the purpose of simplifying and giving uniformity to such health examinations. Favorable comments on this form have been received and it is hoped that they may have widespread use in the state. They are available to physicians who may request them to further this health examination movement in Connecticut.

Why It Is Needed

That the health examination movement is gaining force is indicated by the growing use of it by industrial and other groups. Some states require their teachers to certify to good health before issuing contracts to them, and it is being recognized as an essential part of normal school and college training. The army and navy have for many years routinely made examinations on their officers. While this was used at first as a basis for possible retirement from service, it is now also used to indicate whether they are living to the fullest degree of health.

Insurance groups have long recognized the value of such an examination as a protective measure. To verify this statisticians have compiled some interesting figures. One such statistician has computed the value of health in dollars and cents in the following way. There are 40,000,000 wage earners in the United States. Based on an average wage of $750 these represent $30,000,000,000 a year. Of these 40,000,000 wage earners indications are that 20 per cent, representing $6,000,000,000 are only 75 per cent efficient since they lose on an average of eight days a year through sickness, and at no time give full value since they are not in first class health. This means a loss of $1,500,000,000 each year to

industry and professional work, just because these people have failed to equip themselves with those factors in daily living which are the foundation of success. The Women's Foundation for Health has stated that out of 100 women, 10 will be sick most of the time, 80 will have halfway health, and only 10 will have normal vigorous health.

Need For Education

Such figures are illuminating. They point to the necessity for arousing people to the benefits of a high degree of health, and the assurance that it may be theirs if they will but desire it. Acquiring health is in the hands of each individual, barring those who are not fortunate enough to possess complete physical equipment. The public must be educated along these lines. The value of health must be brought home to them so forcibly that they are not satisfied with their former half-health existence.

Incidently, improved health conditions that must result from the periodic health examinations will help to lengthen the life span. In the 16th century this was only 18—20 years, while in the 20th century it has advanced to 56 years, due to better control of disease, education along infant hygiene lines, and a more enlightened public in personal hygiene, such as the relation of proper food to health, the value of proper exercise and the benefits of adequate rest.

There is a growing demand for health, and physicians must keep pace with this by giving a thorough and adequate health examination to those well people who desire a health appraisal.

HERE AND THERE IN THE FIELD

Among the Health Officers:

W. Bradford Walker, M. D., of Cornwall, has been appointed health officer to fill the vacancy in that town caused by the death of Carrie North Stevens, M. D.

Mr. George M. Smith, of Moodus, is now Acting Health Officer of East Haddam and Haddam, filling the vacancy caused by the death of Matthew W. Plumstead, M. D.

Robert E. Phelan, M. D., has been appointed Acting Health Officer of Stratford during the absence and inability of DeRuyter Howland, M. D.

Mr. Bernard Roberg is now Acting Health Officer of Bantam Boro in place of Mr. S. S. Rydehn.

E. L. Kingman, M. D. of Newtown has been Acting Health Officer in the absence of W. H. Kiernan, M. D.

Child Health

It is of interest to note that at the last Well Child Conference held at East Hampton there was present one child who had attended the first conference held in East Haddam in March, 1923, and had missed attendance at only one regular monthly conference since that time. It would be safe to make the assertion that this is one child for whom a health foundation is being laid.

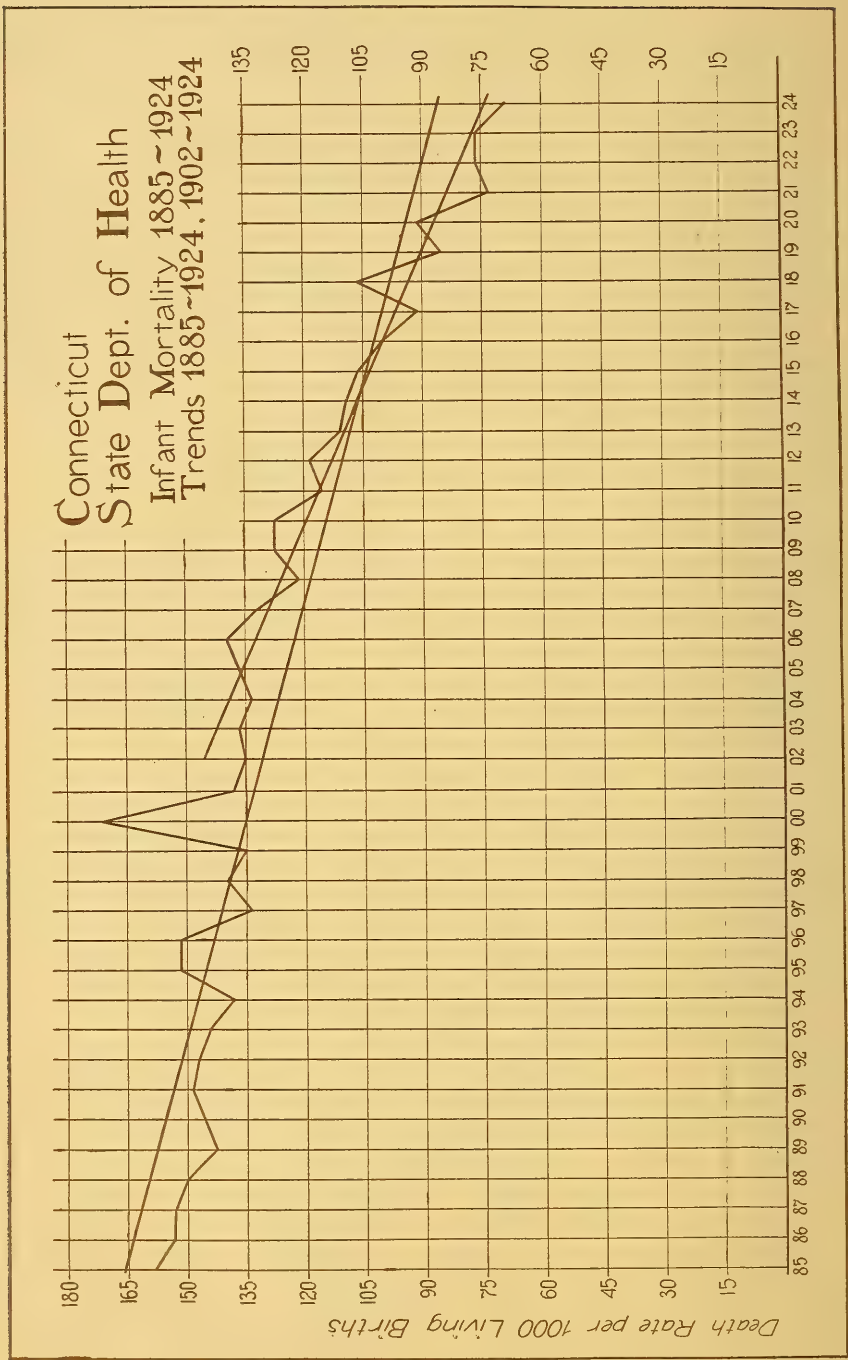
Sanitation

The public is assured of the safety of the oysters on the market sold in Connecticut. Oyster beds have been inspected and certificates granted to all oyster growers who have been found to conform to the regulations of the Sanitary Code. This work has been made possible by the recent legislature which set aside an appropriation for this purpose. A large amount of work has had to be carried out in a short time and it is felt that much has been accomplished.

Publicity

The health exhibit is ready for its tour of the state. A bigger and better show has been assembled, and bookings have been made for the following fairs.

East Haddam	Sept. 2	Chester	Sept. 25
Washington	Sept. 5	Marlborough	Sept. 26
Goshen	Sept. 7	Broad Brook	Sept. 30
Charter Oak Park	Sept. 7-12	Mansfield	Oct. 1-2
Griswold	Sept. 10-12	Bethany	Oct. 3
Woodstock	Sept. 15-17	Durham	Oct. 7-8
Wolcott	Sept. 18-19	Riverton	Oct. 12
Lyme	Sept. 23	Stafford Springs	Oct. 12-14


Connecticut
State Dept. of Health
Infant Mortality 1885~1924
Trends 1885~1924, 1902~1924
Death Rate per 1000 Living Births
180
165
150
135
120
105
90
75
60
45
30
15
85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

INFANT MORTALITY, 1885—1924

By William C. Welling

A survey of Infant Mortality over the last 40 years brings to light much of interest. There can be but little doubt as to the reporting of births 40 years ago—it was questionable. But if the approach to the statistics be cautious some interesting facts may be discovered.

In the first place, the greatest Infant Mortality rate occurred in 1900 and amounted to 171. It will be noted that in 1899 the Infant Mortality was comparatively low for that time. Therefore, if an analytic comparison be made as to certain major causes the following table will result:

	Deaths, 1900	Deaths, 1899	Increase
Diarrhoeal	1,135	842	293
Developmental	486	469	17
Convulsions	200	153	47
Respiratory	476	375	101
Debility, Inanition	364	270	94
Total above causes	2,661	2,109	552
Other causes	860	714	146
Total Infant Deaths	3,521	2,823	698

From the above it will be observed that about 57 per cent of the total increase in infant deaths was due to diarrhoeal and respiratory diseases. Inspection of the meteorological data for 1899 and 1900 shows that the average *maximum temperature* for July, 1900, was 2° higher than 1899 and for August, 1900, was 5° higher than 1899 for the average maximum temperature. The precipitation for August in each year was extremely low, 0.90 inches for 1900 and 0.65 inches for 1899.

The lowest Infant Mortality is 69 and occurred in 1924. If a year be selected, say in 1901, with a rate of 138, to compare with the 69 of 1924, it may be calculated that the general death rate has been reduced 1.6 points by this saving in Infant Mortality.

An examination of the moving trend shows that not until 1907 did it become satisfactorily significant. From that year on it is decidedly significant. But as the moving average upon which the trends were figured was centered at 1907 and comprised the years 1902—1912 both inclusive, a subordinate trend was calculated for the years 1902—1924, an interval of 23 years. The statistical constants for the whole period and the sub-group will now be tabulated.

	1885-1924	1902-1924
Mean Infant Mortality Rate	125.5 ±4.1	109.6±4.6
Standard Deviation	25.7 ±2.8	22.2±3.3
Chance Dispersion	±2.09	±1.8
Trend	−2.03±0.14	−3.24±0.18
Lexian Ratio....................................	12.2 ±1.3	12.3±1.8
Disturbancy	18.8%	20.%
Lexian Ratio (trend excluded)	5.1	3.2
Disturbancy (trend excluded)	8.2%	5.%

The reduction in the mean rate is at once apparent. The dispersion is quite large, but is to be expected from the rates which, for maximum and minimum values, depart considerably from the mean. However, it is to be noted that the scatter for the shorter period is less than the scatter for the longer.

The trend figures are especially interesting. Over the whole period the trend is 14 times its standard deviation, and over the reduced period the trend is 18 times its standard deviation. This indicates great statistical significance.

The Lexian ratio for each series is about the same, as is the coefficient of disturbancy. When the trend is excluded from the series 1885—1924, the Lexian ratio and disturbancy are reduced about 55 per cent. Excluding the trend in the shorter series reduces the Lexian ratio and disturbancy by 75 per cent, showing that the trend has great influence on this series but that its exclusion still leaves the series hypernormal and with a dispersion 3 times what might be expected to arise from pure chance alone. It may be noted in passing that the Lexian ratio is the ratio of the dispersion or standard deviation *as calculated,* to the dispersion due to pure chance. For the period 1902—1924 it is 22.2±3.3 divided by 1.8. The Lexian ratio when the trend is excluded arises from figures not shown above.

If a parabola be fitted to the moving average beginning with 1907, the equation will be $112.25 - 3.342Y - 0.076Y^2$, where Y is to be measured from the group 1908—1918, centered at 1913. The fit is good. The values of the moving average as calculated from the equation correspond very closely with the actual values, the largest deviation being only 0.6.

To prophesy from such an equation is dangerous—as is all prophecy based on time series. The equation, it is true, serves admirably for interpolation but this is no guarantee as to its reliability for extrapolation. However, if the Infant Mortality for 1925 be calculated from this equation there will result a rate of 57. If the *trend line* over the whole period be used the rate will be 82 and if the trend line over the shorter period be tested the rate will be 71. If the trend be deducted the rates will be 67 and 66, of course.

The chart on page 184 shows the Infant Mortality rates and the two trend lines. It was not possible to include the moving average and the parabola fitted thereto.

The trend of –3.24 cannot be maintained indefinitely. If it were to continue the Infant Mortality would be zero in 1934. Just what the irreducible minimum will be is a matter of speculation.

The discusion above gives a mathematically descriptive outline of what has been accomplished in the reduction of Infant Mortality. It should be tremendously encouraging to all who actively engage in this work and a source of pride to the State.

Connecticut Infant Mortality 1885—1924

With moving average of 11 year interval and trend for same interval

Year	Infant Mortality Per 1,000 Living Births	Moving Average	Moving Trend
1885	158		
1886	153		
1887	153		
1888	150		
1889	142		
1890	146	148.0	–1.13± .4
1891	149	147.4	–0.45± .4
1892	147	145.5	–0.79± .5
1893	144	144.4	–0.65± .5
1894	138	143.0	–0.39± .5
1895	151	145.6	+0.46± .9
1896	151	144.9	+0.14±1.0
1897	133	143.9	–0.25±1.0
1898	140	143.0	–0.40±1.0
1899	135	142.0	–0.80±1.0
1900	171	141.8	–1.30±1.0
1901	138	140.8	–0.87±1.0
1902	135	139.1	–0.72±1.0
1903	137	138.1	–1.83± .9
1904	133	136.9	–2.23± .9
1905	136	136.2	–2.78± .8
1906	140	131.1	–1.84± .8
1907	132	129.2	–2.06± .4
1908	122	127.1	–2.58± .4
1909	127	124.5	–2.87± .4
1910	127	122.2	–3.20± .3
1911	115	119.0	–3.41± .2
1912	118	114.6	–3.49± .3
1913	111	112.3	–2.93± .4
1914	109	109.0	–3.60± .4
1915	107	105.8	–3.39± .4
1916	101	100.9	–3.73± .5
1917	92	97.4	–4.04± .5
1918	106	93.6	–3.90± .5
1919	86	89.8	–4.07± .5
1920	92		
1921	73		
1922	77		
1923	76		
1924	69		

Births, Marriages and Deaths

July, 1925 Statistics	Population Est. as of July 1, 1925 Based on U. S. Census	TOTALS Births	Stillbirths	Marriages	Deaths	DEATH RATES All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	AGE GROUPS Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,529,688	2460	95	811	1199	9.4	0.8	42.4	112	46	409
Ansonia	19,034	26	....	6	7	4.4	1.2	40.0	1	....	3
Branford	6,954	8	1	1	5	8.6	1.7	200.0	2	....	1
Bridgeport	166,644	276	11	92	106	7.6	0.9	21.8	6	5	43
Bristol	24,621	39	....	9	14	6.8	0.5	20.0	1	1	3
Danbury	21,931	41	4	7	28	15.3	2.1	46.1	2	1	9
Derby	12,500	36	4	5	11	10.6	1.0	27.2	1	....	3
East Hartford	13,616	12	....	5	4	3.5	....	....	....	....	2
Enfield	12,834	22	....	16	11	10.3	....	120.0	3	....	2
Fairfield	14,490	17	....	5	4	3.3	0.9	....	....	....	....
Glastonbury	6,042	2	1	4	2	4.0	....	....	....	1	1
Greenwich	25,207	34	....	55	19	9.0	0.5	48.0	2	....	6
Groton	10,764	12	1	9	6	6.7	....	85.7	1	....	2
Hamden	10,150	12	1	4	8	9.4	2.4	60.0	1	1	5
Hartford	160,199	374	16	83	146	10.9	0.6	59.3	20	5	40
Killingly	9,051	7	....	8	6	8.0	....	....	....	....	4
Manchester	21,018	38	....	11	18	10.3	0.6	52.2	2	2	4
Meriden	36,251	60	1	22	30	9.9	1.0	17.1	1	1	8
Middletown	22,649	45	1	13	42	22.2	2.1	40.0	2	2	15
Milford	13,473	....	....	....	....	....	....	....	....	....	....
Naugatuck	16,350	15	....	8	7	5.1	2.2	....	....	....	5
New Britain	67,896	146	5	30	37	6.5	1.7	36.3	5	3	4
New Haven	178,735	309	11	92	146	9.8	0.6	57.0	19	9	31
New London	29,003	66	....	23	26	10.7	1.3	....	....	1	5
Norwalk	29,596	54	2	15	27	10.9	0.4	....	....	....	16
Norwich	30,425	71	4	23	35	13.8	0.8	29.0	2	2	11
Plainfield	8,570	4	1	3	4	5.6	....	85.7	1	1	....
Plymouth	6,349	5	....	1	4	7.5	....	120.0	1	....	1
Putnam	8,990	25	2	7	10	13.3	....	50.0	1	....	6
Seymour	7,911	3	....	3	3	4.5	....	92.3	1	....	1
Shelton	11,134	11	1	2	14	15.1	1.0	70.6	1	2	2
Southington	9,529	10	....	4	5	6.2	1.2	....	....	....	4
Stafford	5,457	17	....	2	6	13.2	....	126.3	2	....	2
Stamford	46,218	92	5	39	30	7.7	1.0	30.0	3	2	9
Stonington	10,819	18	....	5	5	5.5	....	....	....	....	2
Stratford	16,085	20	1	7	10	7.4	1.5	60.0	1	....	3
Thompson	5,196	6	....	5	5	11.5	....	....	....	....	2
Torrington	24,492	48	1	6	15	7.3	1.5	68.0	3	....	2
Vernon	8,822	14	....	6	3	4.0	....	96.0	1	....	2
Wallingford	12,483	16	2	6	10	9.6	2.0	63.1	1	1	6
Waterbury	102,134	169	7	47	71	8.3	0.4	54.3	11	1	14
Watertown	7,192	4	....	8	5	8.3	....	300.0	2	1	2
West Hartford	11,146	20	2	4	10	10.7	....	180.0	3	1	2
West Haven	17,834	29	....	5	19	12.7	1.3	58.5	2	....	7
Westport	5,597	6	....	3	4	8.5	....	....	....	....	1
Winchester	9,129	10	1	3	2	2.6	....	....	....	....	2
Windham	14.368	....	....	....	9	7.5	1.7	....	....	....	5
Windsor	6,436	4	....	4	4	7.4	....	120.0	1	....	2
Towns under 5.000	209,346	207	9	95	206	11.8	0.6	24.0	6	3	109

for the month of July, 1925

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
176	1	1	1	1	1	5	7	2	83	25	142	3	5	27	16	20	6	85	17	3	374	204
2									1										1			
									1							2		2				1
23							1		7	6	23		2	5			2	7	3		41	11
1				1					1		3										1	1
5									2	2	4			1	1			2			6	4
1									1		2										6	5
1																						
								1			3						1			1		
									1		1											
						1																
3										1	2		1					1				
																		1				1
3									1													
23							1		6	3	15			2	4	3	1	15			89	41
											3				1			2				
1											2	1						2	1			2
1									2		4			2				6	1			5
2								1	5	1	4			1	2			3	2		25	18
4										1												
3									2	3	5	1		1		2	2	2			11	1
20			1			3	1		6	2	16	1	1	2	4	6		8	2	2	63	13
5									1	2	3							2			10	9
7	1								1		4			1				1			6	1
2							1		8	1	2					1		4			15	10
							1											1				
																1						
														1				1			5	1
																		1				
1					1				5									1			5	5
1									1		1											
2																					2	1
7									2		2			1				2			7	2
1													1									
3									1		2											
2											1							1	1			
2									1	1				1				3	1		2	1
1																					1	
3									1		1										1	
7							1		2	2	15			3	1	1		3			28	6
											1											1
1											1			2		1					4	1
5									6		1										5	6
									1					1								
																					1	1
									1		1										3	1
1																						
32		1				1	1		16		20			3	3	3		14	5		37	55

Vital Statistics

Month of July, 1925

Births

The reports of births received in the Department for July, 1925, number 2,460, 388 below the 2,848 reported in 1924. At the time this article was written in 1924, 2,710 births had been reported, a total which has been increased to 2,848 by late reports. This was an increase of 138 or about 5 per cent of the original number reported, 2,710. If we increase the present total by 5 per cent the births will number 2,587 one year from date.

The average number of births reported for the month is 2,768±65. From this it appears that 1925 is 308 below the average. The standard deviation is 159±46, showing that there is considerable scattering about the mean. The birth rate has decreased from 25.2 in 1920 to 20.5 in 1925.

Fourteen towns over 5,000 in population reported an increased number of births in comparison with 1924. Of these Meriden with an increase of 10 and New Britain with 13 were the only towns to report increases of 10 or more.

The stillbirths total 95, an increase of 8 over 87 reported in 1924. The stillbirth rate among the total births for the month was 37.1 per 1,000 births with a chance fluctuation of ±3.7. One year ago it was 3.1±3.4. The increase of 6.0 in the rate has no significance, as the standard deviation of the increase is ±5.0.

Deaths

The deaths number 1,199, exactly the same total as was reported in 1924. For the past six years, beginning with 1920, the number of deaths has run as follows: 1,274, 1,280, 1,208, 1,200, 1,199, 1,199, a series which is characterized by considerable uniformity. The mean number of deaths is 1,226±15 with dispersion of 35.8±10.3. An inspection of the numbers will show that the chance fluctuation is very nearly 35 for each of the past six years, and as the actual dispersion is nearly 35 it may be said that the deaths have been normally distributed and the ratio of the actual to the chance dispersion (Lexian Ratio) is unity. The rates are coming down, of course. With approximately the same number of deaths each year, the rate must come down when the population has been increased by its annual increment.

For certain diseases the following table sets forth the increase or decrease.

Cause of Death	1925	1924	Increase	Decrease
Diseases of the Heart	176	159	17	....
Epidemic Encephalitis	1	5	....	4
Pneumonia Undefined	1	1	....	....
Typhoid Fever	1	5	....	4
Measles	1	2	....	1
Scarlet Fever	1	0	1	....
Whooping Cough	5	2	3	....
Diphtheria	7	9	....	2
Influenza	2	2	....	....
Tuberculosis, Pulmonary	83	87	....	4
Tuberculosis, Other Forms	25	17	8	....
Cancer	142	126	16	....
Cerebrospinal Meningitis	3	3	....	....
Poliomyelitis	5	1	4	....
Lobar Pneumonia	27	13	14	....
Broncho Pneumonia	16	24	....	8
Diarrhoea & Enteritis, Under 2	20	28	....	8
Puerperal Diseases	6	10	....	4
Accident	85	119	....	34
Suicide	17	14	3	....
Homicide	3	4	....	1
Other Causes	572	568	4	....
Total	1199	1199	70	70

For Diseases of the Heart, using 1924 as a base, the chance fluctuation of the 159 deaths is about 13. Actually we have experienced 17—the increase is not significant. If we continue down the list the increases or decreases are not significant until we come to Lobar Pneumonia. Here an increase of about 4 might have been expected. The increase of 14 is more than 3 times the expected and is significant. The decrease in accidental deaths is 34 when a decrease of 11 was to be expected. This is also significant, and *may* mean that we are to experience a reduction in these deaths, so many of which arise from needless carelessness. One type of accidental death has NOT been reduced—the automobile accident death. For 1925 there were 26 such deaths as compared with 19 in 1924. This is an increase of 7.

Infant Mortality

The deaths of infants number 112 as compared with 146 a year ago. This is a decrease of 34. The Infant Mortality rate is 42.4 and is the lowest to appear in the last six years.

Marriages

The marriages have, in the main, been falling off in the past six years. The rate of 6.3 per 1,000 population is the lowest. The average number is 958±41 with considerable dispersion. Actually the standard deviation is 99±29. The month, with 811 is 139 below the 950 reported in 1924 and 147 below the average.

For Six Years—July, 1920-1925

CONNECTICUT	1920	1921	1922	1923	1924	1925
BIRTHS *Birth Rate*	2929 25.2	2913 24.6	2717 22.5	2738 22.3	2848 22.7	2460 20.5
MARRIAGES *Marriage Rate*	1091 9.4	1016 8.6	863 7.2	970 7.9	950 7.6	811 6.3
DEATHS *Death Rate*	1274 11.0	1280 10.8	1208 10.0	1200 9.8	1199 9.6	1199 9.4
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	172 13.5	133 10.4	127 10.5	119 9.9	109 9.2	108 9.0
DEATHS UNDER 1 YEAR *Rate per 1000 births*	224 78.7	220 77.7	183 68.7	142 55.5	146 56.7	112 42.4

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

Towns not Reporting, July, 1925

BIRTHS	MARRIAGES	DEATHS
Andover	Andover	Avon
Barkhamsted	Avon	Barkhamsted
Colebrook	Barkhamsted	Chaplin
Cornwall	Bozrah	Cornwall
Franklin	Clinton	Coventry
Milford	Cornwall	East Granby
Old Lyme	Farmington	Franklin
Plainville	Franklin	Haddam
Roxbury	Haddam	Milford
Sharon	Milford	Plainville
Sterling	Old Lyme	Roxbury
Warren	Plainville	Sharon
Washington	Roxbury	Simsbury
Weston	Sharon	Warren
Windham	South Windsor	
Wolcott	Warren	
	Weston	
	Windham	

Laboratories

SUMMARY OF BUREAU ACTIVITIES FOR AUGUST, 1925

DIAGNOSTIC

	+	—	?	Total	
Typhoid	5	264	3	272	
Paratyphoid A	....	272	....	272	
Paratyphoid B	10	262	....	272	
Diphtheria	110	431	....	541	
Diphtheria Virulence	....	8	....	8	
Vincent's Angina	1	291	....	292	
Haemolytic Streptococci	2	288	....	290	
Tuberculosis	21	76	....	97	
Syphilis	173	1018	107	1298	
Gonorrhoea	26	89	....	115	
Malaria	....	3	....	3	
Rabies	2	7	....	9	
Special	1	9	1	11	3480

CHEMICAL AND BACTERIOLOGICAL

Milk samples	187	
Water samples	270	
Oyster samples	193	650
Total number of examinations made		4130

The Work Grows

The total number of laboratory examinations made during this month was larger than the number for August, 1924, by over 1100 examinations, for August, 1923, by over 1400. This growth of the work of the Bureau occurred in nearly all divisions of the Laboratory. However, fewer milk samples were received than in any August for the past sixteen years. Milk samples were received from only ten towns in the State. No thermometers were examined in August. A portion of the increase in work of the Laboratories resulted from the enforcement of new legislation on the examination of oysters and oyster handlers.

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF AUGUST, 1925

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of August, 1925, with the corresponding month for the years 1920, 1921, 1922, 1923, and 1924.

DISEASE	Average 1920-1924 for August	Mean 1920-1924 for August	1920	1921	1922	1923	1924	1925
Cerebrospinal Meningitis ..	7	10	10	1	12	3	10	3
Diphtheria	121	124	162	157	97	124	91	64
Encephalitis Epidemic	5	5	1	5	6	5	5	1
Measles	89	102	102	59	131	114	38	47
Poliomyelitis	18	18	5	21	9	18	36	14
Scarlet Fever	84	82	104	82	66	87	81	71
Smallpox	3	12	......	......	1	12	1	......
Typhoid Fever	62	55	63	96	55	51	45	43
Tuberculosis (pulmonary)	143	145	145	165	145	133	125	100
Whooping Cough	231	149	488	140	149	229	148	323

A comparison of the morbidity on these diseases for the two preceding months, June and July with the August record is as follows:

	June	July	August
Cerebrospinal Meningitis	1	2	3
Diphtheria	123	80	64
Encephalitis Epidemic	6	4	1
Measles	1049	358	47
Poliomyelitis	1	8	14
Scarlet Fever	180	75	71
Smallpox	....	....	....
Typhoid Fever	14	17	43
Tuberculosis (pulmonary)	137	113	100
Whooping Cough	458	410	323

Cases of Other Reportable Diseases August, 1925

Chickenpox	16	Pneumonia (Broncho)	31
Dysentery (Bacillary)	1	Septic Sore Throat	3
Encephalitis Epidemic	1	Tetanus	3
German Measles	5	Trachoma	1
Influenza	2	Gonorrhoea	94
Malaria	2	Syphilis	69
Mumps	7		
Paratyphoid Fever	3	Total	238

Cases of Occupational Diseases

Copper and Zinc Poisoning	1
Dermatitis	1
Total	2

Cases of Certain Reportable Diseases

August, 1925	Population Est. as of July 1, 1925	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Cerebrospinal Meningitis	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com. Diseases
State Total	1,529,688	43	47	71	323	64	3	14	100	18	34	238
NEW HAVEN CO.	**459,157**	**9**	**14**	**23**	**131**	**12**	**2**	**5**	**37**	**10**	**14**	**94**
New Haven	178,735	5	3	6	67	2		2	23	8	6	49
Waterbury	102,134			6	5	8	1		5	1	3	18
Meriden (city and town)	36,251	1	2	5	26				2		5	14
Ansonia	19,034			1	1							4
West Haven	17,834	1	1	1	4			1	4			3
Naugatuck	16,350								2			
Wallingford (town and boro)	12,483								1			
Milford	13,473		3		4							
Derby	12,500			1								
Hamden	10,150	1	4		10	1						3
Branford (town and boro)	6,954			2	7		1			1		3
Seymour	7,911											
Towns under 5,000	25,348	1	1	1	7	1		2				
FAIRFIELD CO.	**363,740**	**9**	**2**	**26**	**26**	**24**		**3**	**14**	**1**	**7**	**30**
Bridgeport	166.644	3	1	15	3	16		2	6	1	5	14
Stamford (city and town)	46,218		1	7	14	6		1	2			3
Norwalk	29,596				5	1			1			1
Danbury (city and town)	21,931			2					1			3
Greenwich (town and boro)	25,207			1	1				2		1	4
Stratford	16,085	4										
Fairfield	14,490	2		1		1						
Shelton	11,134											
Westport	5,597								2			
Towns under 5,000	26,838				3						1	5
HARTFORD CO.	**384,608**	**15**	**11**	**11**	**29**	**17**		**1**	**33**	**6**	**8**	**81**
Hartford	160,199	9	7	5	19	7		1	18	4	4	49
New Britain	67,896	1	1	5	5	1			6	2	1	11
Bristol (city and town)	24,621		1	1	2	2			1		1	7
Manchester	21,018	3							1			6
Enfield	12,834					1						
East Hartford	13,616					1			1			3
Southington (town and boro)	9,529										1	1
West Hartford	11,146		2		1				3			1
Windsor	6,436	2										
Glastonbury	6,042				2							1
Towns under 5,000	46,253					5			3		1	2
NEW LONDON CO.	**112.155**	**2**	**7**	**4**	**41**	**8**		**3**	**4**		**2**	**22**
Norwich (city and town)	30,425		2	1	3	5						1
New London	29,003		1	2	9	2			2		1	18
Stonington (town and boro)	10,819							2			1	
Groton (town and boro)	10,764	2	1		3							1
Towns under 5,000	31,144		3	1	26	1		1	2			2
LITCHFIELD CO.	**79,851**		**2**	**3**	**3**	**2**			**3**		**1**	**2**
Torrington (town and boro)	24,492											
Winchester (inc. Winsted)	9 129											
Plymouth	6,349				1				2			
Watertown	7,192											
Towns under 5,000	36,689		2	3	2	2			1		1	2
WINDHAM CO.	**55.360**	**1**	**7**	**1**	**3**	**1**	**1**		**3**	**1**	**1**	**2**
Windham (inc. Willimantic)	14,368			1	3		1		1		1	1
Putnam (city and town)	8,990								1	1		1
Plainfield	8,570					1						
Killingly (inc. Danielson)	9.051		2						1			
Thompson	5,196											
Towns under 5,000	9,185	1	5									
MIDDLESEX CO.	**47.152**	**6**	**4**	**3**	**90**			**1**	**4**		**1**	**3**
Middletown (city and town)	22,649	2	4	1	70							2
Middletown State Hospital									1			
Towns under 5,000	24,503	4		2	20			1	3		1	1
TOLLAND CO.	**27,665**	**1**						**1**	**2**			**4**
Vernon (inc. Rockville)	8,822								2			1
Stafford (town and boro)	5,457							1				1
Towns under 5,000	13,386	1										2

AUTUMNAL SUGGESTIONS

Locate and Visit the Nearest Health Exhibit
At the Late Fairs

Send the Children to School Healthy

Put the Surplus Garden Products into Cans
Or the Vegetable Cellar
Ready for A Well Balanced Winter Diet

Local Groups and Clubs Should Make Plans for
Winter Health Meetings

Start the Winter Season with A Full Health Examination
For the Entire Family

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 39 October, 1925 No. 10

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STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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CONNECTICUT
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THE SANITARY SUPERVISION OF THE OYSTER INDUSTRY IN CONNECTICUT

By Warren J. Scott

There has been on the statute books of Connecticut for years a law giving to the State Department of Health the power to inspect oyster beds and the way in which oysters are handled for market. During the past few years there has been no occasion where Connecticut oysters were suspected as causing disease. With the increase in pollution of the waters of the state, however, it has been advisable to make regulations for protection of the public health and the sanitary inspection of oyster beds, shucking houses and methods by which oysters have been handled in Connecticut through the regulations of the Sanitary Code of the state. These regulations of the Sanitary Code were made effective by the Public Health Council on June 1, 1925. It should be borne in mind, however, that in spite of the increased pollution of the coastal waters in this and other states, the danger from contaminated oysters has been greatly lessened due to other causes, chief of which are the great reduction of cases of typhoid fever and other intestinal diseases with a resultant lessening of the most dangerous pollution, and also the abandonment of many polluted areas.

The last General Assembly appropriated the sum of $7500 to the State Department of Health for a two year period to establish sanitary control of the oyster industry in Connecticut, and the work is now being carried on.

The Connecticut State Shellfish Commission is charged with the supervision of the oyster industry and has mapped out and buoyed the shellfish areas in the state. Some of the areas are under the jurisdiction of the towns and are known as town beds. The Shellfish Commission has aided greatly in the work of the State Department of Health in its investigations. They have loaned their boat to the Department

when necessary for the collection of samples, and the Captain of the Shellfish Commission boat has been of invaluable assistance in locating the various beds and areas. The oyster growers individually and through their associations have assisted in this matter by their co-operation at various times and at conferences that were held in discussing the practical working out of proposed regulations.

The field work that the State Department of Health has been called upon to do has been placed in charge of the Bureau of Sanitary Engineering. The laboratory work is being carried out by the Bureau of Laboratories. The amount of field work that the Bureau of Sanitary Engineering is called upon to do is large and the completion of it will necessarily entail considerable time. The work consists of sampling of oysters and water, making sanitary surveys of the oyster areas, and the supervision of oyster shucking houses.

It is of interest that practically all of the oysters produced in Connecticut waters are grown in the Sound between Guilford and Greenwich. Some of the reasons for the centralization of the industry west of the Connecticut River are the more exposed coast line in the eastern part of the state which renders oyster cultivation more difficult, and the fact that many of the eastern areas are under the control of the towns and the larger dealers have not been able to obtain suitable areas.

The sale of oysters falls into two classes; the sale of shucked oysters, such as we buy for our oyster stews, and the sale of shelled stock for our oysters on the half-shell. The shelled stock may later be opened by the retailers.

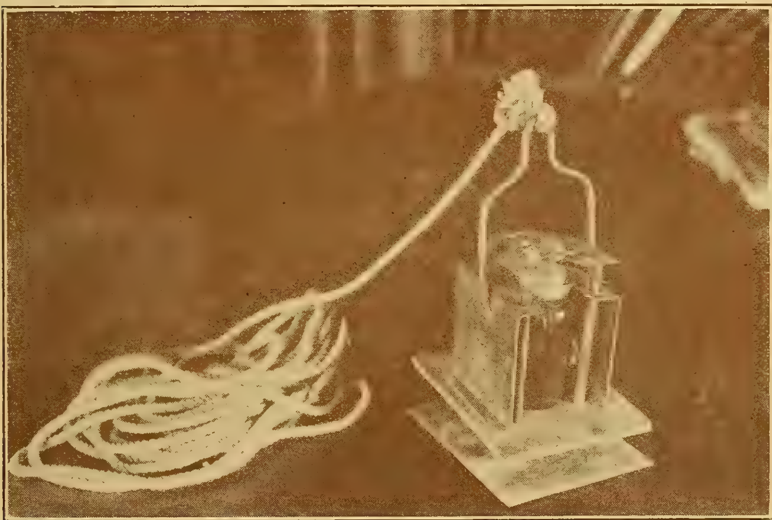
There are several ways in which oysters may be contaminated. These have been summed up as follows: (1) contaminated grounds, (2) floating in polluted water, (3) insanitary shucking houses, (4) washing with impure water and contaminated ice, (5) unclean methods of handling, packing and shipping.

The State Department of Health has been engaged for a number of weeks in collecting samples of oysters and water from beds which it is intended to use this fall. Certificates have been issued by the Department to owners of beds as a result of these investigations.

It is necessary to collect samples at different stages of the tide to account for varying conditions. A device is used for water sampling so that samples for bacteriological analysis are secured from the bottom water or in other words, from the water supply of the oyster, which is continually drawing in through its body many gallons of water each day. Captain Burton L. Wright of the State Shellfish Commission boat de-

vised the apparatus shown in the accompanying illustrations and this has worked out very satisfactorily.

Figure 1 shows the position of the bottle used for collection of the sample for bacteriological analysis as it appears when the line is held taut and the bottle is being lowered through the water. Figure 2 shows what occurs when the apparatus strikes the bottom. The apparatus contains two separate frame-works, one moving within the other. One of these holds the stopper and the other holds the bottle. The metal bottom of the frame-work holding the stopper strikes the sea bottom first. As the frame-work holding the bottle continues to lower, the bottle pulls away from the stopper. The sea water then rushes in and fills the bottle.



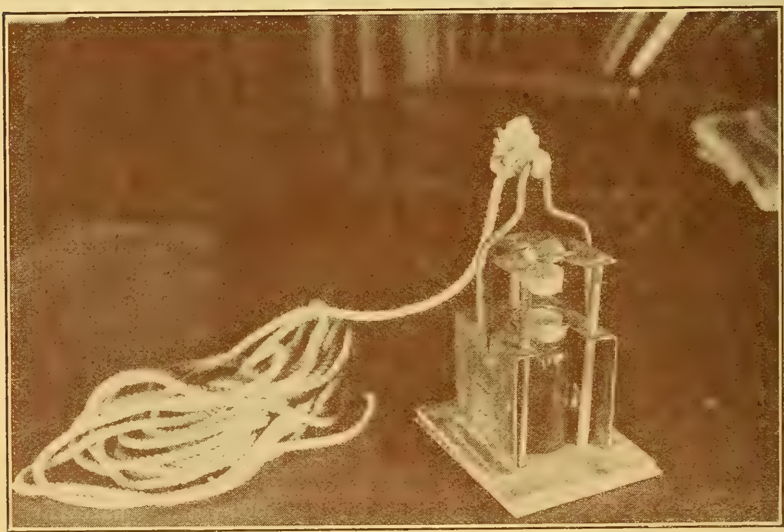
Water Sampling Apparatus Descending Through the Water
Figure 1.

As soon as the line is again pulled taut and the bottle starts to rise the stopper is snapped back into place. In this manner it is assured that no water reaches the sample other than from the sea bottom and the construction makes it unnecessary to handle the stopper which might introduce contamination. There is an opening at the rear of the outfit through which the bottle may be pushed out of the fastening clips which hold it in place. The construction of the bottom of the apparatus seldom results in any stirring of the bottom mud and very few samples have shown turbidity from this cause.

In sampling a bed of oysters, five representative oysters are taken. The oysters are opened and the shell liquor, or

water inside the shells, is combined and analyzed similarly to water. The liquid is put through a careful scientific laboratory procedure in accordance with the standard methods recommended by the American Public Health Association. Tests are made for the presence of Colon bacillus, an organism which is found in the intestinal tract of man and warm blooded animals and which indicates contamination.

The floating of oysters in fresh water results in fattening them so that the consumer pays for more than he is receiving. In many states, the oysters are brought to the shucking and packing houses and placed in floats with salt water until wanted for use. In Connecticut, however, very few oysters are stored in this manner but they are shipped as soon as brought in. Complaint is made that oysters are floated by retail dealers and this is being investigated. The Sanitary Code of Connecticut requires that all floated oysters shall be so marked.



Sampling Apparatus Filling on Sea Bottom
Figure 2.

The sanitation of oyster shucking houses is specifically covered by the Sanitary Code and licenses are granted by the State Department of Health to the owners of shucking houses that are found to be in sanitary condition. The principal requirements in regard to shucking houses are: that they be of such construction that they can readily be maintained in a clean condition and that they be maintained in such condition; that they be properly screened; that provisions

be installed and used for the thorough cleansing and scalding of all utensils; that proper sanitary precautions be adopted by the employees, such as washing of hands; that storage and shipment of the oysters at suitable temperatures be provided; that each employee of the shucking house carry a certificate showing that he or she has been examined and is not a typhoid carrier. In a word, the shucking house and its employees must be clean.

All of the oyster shucking houses in the state have been inspected and the owners advised what changes would be necessary. There was room for considerable improvement in some cases, but the majority were in fair condition, and some were in a very good condition. The shucking house proprietors have been very co-operative and realize that proper sanitary supervision is desirable and necessary to safeguard the industry. Most of the larger shucking houses have already complied with the requirements of the Sanitary Code and have received licenses to commence operations. The principal changes that have been found necessary in the shucking houses have been: painting and repairing; installation of heating devices to provide hot water; installation of proper toilet and washing facilities for the employees; and provisions for proper screening.

In some states, the securing of water of suitable quality for the washing of shucked oysters is a serious problem, but it is fortunate that practically all of the dealers in Connecticut have equipped their shucking houses with water from public water supplies which already are under the supervision of the State Department of Health. The Sanitary Code states that oysters shall not be allowed to come in contact with ice when shipped.

In compliance with Regulation 235 of the Sanitary Code, oyster boats are equipped with receptacles for the reception of excreta from the men working on the oyster boats.

As in the milk business and other industries, the problem of the small dealer will have to be worked out. The number who come under this category in Connecticut is considerable and steps are being taken to require every man who comes under the provisions of the Sanitary Code to fall in line.

Practically all of the oyster producing states have undertaken extensive investigation and supervision of the shellfish industry during this year. The extent of the various investigations, of course, has been dependent upon the extent of the industry in the state and the amount of funds available. The United States Public Health Service has received an appropriation for oyster work and is conducting experiments and investigations to bring to light further informa-

tion in regard to the oyster and other shellfish, for, as in most lines of endeavor, there still remains much to be learned.

Careful sanitary supervision over the industry is being built up and will be maintained. The oystermen have been of great aid in this work and they naturally want the public to feel that every precaution is being taken to continue the excellent reputation that Connecticut oysters now enjoy.

In the oyster industry we have a valuable native food product which annually runs into millions of dollars and the protection of our food products is naturally a vital matter in the maintenance of the health of the public. It is to this end that the State Department of Health is doing its best to see that all oysters gathered in Connecticut waters are safe for use as food.

THE PREVENTION OF RICKETS*

Henry C. Sherman, Ph. D.

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Park has recently written: "Personally, I believe that if pregnant women received ample well-balanced diets, in which green vegetables were abundantly supplied and cows' milk was regularly taken, and kept a sufficient part of their time in the open air and sun, and if their infants were placed in the direct rays of the sun for a part of each day and were fed cod-liver oil for the first two or three years of life, more could be accomplished in regard to the eradication of caries of the teeth than in all other ways put together, and that rickets would be abolished from the earth."—(Dental Cosmos for February, 1923.)

This declaration of the practicability of complete abolition of rickets is all the more impressive in that it comes from one of the most careful, critical and conservative students of the disease, who deals with it not only under experimental conditions subject to laboratory control, but also clinically under the complexities of actual human experience and whose definition of rickets is notably broad and inclusive. It would be well if this statement by Park could be given at least as wide a circulation as has been given of late to the suggestion that rickets is caused by the eating of cereals.

That too exclusive a dependence upon cereals in the feeding of infants and young children may increase the danger of rickets is undoubtedly true. Whether the cereal in any case has directly injurious action such as to justify the belief that it is "rickets-producing" in any other sense than that it tends to make the diet one-sided and induce a greater gain in size than in bone development is not so clear. Mellanby's experiments with puppies, from which he draws the conclusion that cereals are "rickets-producing" and oatmeal especially so, are of distinct scientific interest and may perhaps prove to be of practical importance for some parts of the British Isles where cereals and especially oatmeal bulk largely in the diet of a majority of the population and where sunshine is a blessing which Nature but rarely bestows.*

Fortunately most of our readers and their patients or "clients" have access to sufficient amounts of sunshine if they can

*Reprinted from Child Health Bulletin, September, 1925, by permission of The American Child Health Association.

but be taught to use it; and they also live within reach (both geographically and economically) of food supplies of such adequacy and variety that there need be no hesitation in giving to cereals the place in the diet which their wholesomeness, cheapness and relatively high food value suggest, so long as proper emphasis is also given to the foods which are now well known to be of special value as sources of those nutritive essentials which in the cereals are either lacking or not sufficiently abundant. Fruits and vegetables for mineral elements and for vitamins B and C; milk and the yolk** of egg for mineral elements, vitamins A, B, and D*** and the nutritionally important amino acids—these foods, with cod-liver oil as additional insurance as to abundance of vitamins A and D, make us practically independent (at least in regions receiving moderate amounts of sunshine) of any such fear of the cereals as some people seem to have derived from the perhaps excessive publicity which has been given to Mellanby's preliminary results. It is unfortunate that the newspapers have given so much greater prominence to the merely preliminary indications of a rickets-producing substance in oatmeal than to the evidence which his work affords, in confirmation of much evidence differently arrived at in this country but of similar import, of the positive value of whole milk and fresh vegetables in the prevention of rickets, probably because they contain both a favorable mineral content and significant (though variable) amounts of the antirachitic vitamin.

For the dominant and practically important aspect of rickets is certainly not a matter of a direct food toxicity; it is a nutritional deficiency or perversion which affects particularly the skeletal tissues. As Park has defined it, rickets

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*We are all familiar with the expression "a fresh day" as applied to a day of refreshing and exceptional coolness in summer time; in Scotland (according to the Century Dictionary) a sunshiny day is a "fresh day."

**We here emphasize the yolk of the egg rather than the egg as a whole because we believe that whatever there may be of danger in the feeding of eggs to young children resides in the white of the egg (which seems responsible for such anaphalactic phenomena as has been adequately described) and that the yolk contains much the greater part of all the nutrients in the egg which are important to the child—the iron, calcium and phosphorus, the vitamins, and proteins which furnish the nutritionally essential amino acids for conversion in proteins of muscle, blood and bone. Since the child is not growing feathers, it cannot make the same good use as does the chick of the *extra* protein contained in the white of the egg.

***For convenience, we here follow the growing custom of using the letter D for occasional brief designation of the antirachitic vitamin.

is a disturbance of the mineral factors in nutrition which results in a retarded deposition of calcium phosphate in the developing bone.

That the fault is not so much in the bone tissue itself as in the serum which bathes and feeds it, is clearly shown by Shipley's demonstration that rachitic bones will calcify normally when removed from the body and placed in a suitable serum.

Analysis shows that in rickets the blood serum is deficient in its content of calcium or of phosphorus or both. Such mineral deficiencies in the blood serum may be due to corresponding deficiencies in the food, or to losses of calcium, phosphorous, or both, as calcium phosphate in the digestive tract, or to a failure of the body for some other reason to mobilize calcium and phosphorus to the best advantage of the developing bone.

The antirachitic vitamin of cod-liver oil, egg yolk, whole milk and fresh vegetables probably acts by aiding, in some way not yet fully understood, the mobilization of these mineral elements in the body.

Sunlight (or its equivalent in ultra-violet rays from other sources) probably acts by forming antirachitic vitamin from the cholesterol always present in the skin.

The view that rickets is essentially a matter of nutritional deficiency or defect which shows itself in a diminution of calcium or phosphorus or both in the blood serum, and can be prevented by maintenance of the normal calcium and phosphorus content of the serum whether this be accomplished by direct attention to the metabolism of calcium and phosphorus as such, or their more advantageous mobilization through the aid of antirachitic vitamin or ultra-violet rays, *or best* through attention to all three of these phases as recommended by Park in the statement which we have quoted as the opening paragraph of this paper, is so well established and of such well-proven adequacy that attention should not be diverted from it by over-emphasis upon subsidiary phases of the rickets problem.

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF SEPTEMBER, 1925

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of September, 1925, with the corresponding month for the years 1920, 1921, 1922, 1923 and 1924.

DISEASE	Average 1920-1924 for September	Mean 1920-1924 for September	1920	1921	1922	1923	1924	1925
Cerebrospinal Meningitis ..	5	4	3	7	4	4	6	3
Diphtheria	165	178	190	231	178	115	112	67
Encephalitis Epidemic	3	3	3	4	2	3	4	2
Measles	41	39	66	39	50	28	21	31
Poliomyelitis	19	18	8	18	11	24	34	13
Scarlet Fever	114	103	130	103	143	91	103	70
Smallpox	1	2	......	2	2	2	......	......
Typhoid Fever	66	58	121	76	36	58	38	42
Tuberculosis (pulmonary)	127	123	151	123	114	121	128	110
Whooping Cough	193	171	278	186	158	170	171	256

A comparison of the morbidity on these diseases for the two preceding months, July and August, with the September record is as follows:

	July	August	September
Cerebrospinal Meningitis	2	3	3
Diphtheria	80	64	67
Encephalitis Epidemic	4	1	2
Measles	358	47	31
Poliomyelitis	8	14	13
Scarlet Fever	75	71	70
Smallpox	......	......	......
Typhoid Fever	17	43	42
Tuberculosis (pulmonary)	113	100	110
Whooping Cough	410	323	256

Cases of Other Reportable Diseases
September, 1925

Bronchopneumonia	35	Paratyphoid Fever	3
Chickenpox	12	Trichinosis	2
Dysentery (Bacillary)	1	Gonorrhoea	89
Encephalitis Epidemic	2	Syphilis	108
German Measles	4	Chancroid	1
Influenza	6		
Mumps	3	Total	266

No cases of occupational diseases reported for September.

Cases of Certain Reportable Diseases

SEPTEMBER 1925	Population Est. as of July 1, 1925	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Other Com. Diseases
State Total	1 529 688	42	31	70	256	67	3	13	110	9	41	266
NEW HAVEN CO.	**459,157**	**9**	**2**	**15**	**85**	**17**		**2**	**42**	**2**	**8**	**68**
New Haven	178,735	5		2	47	1		1	27	2	3	41
Waterbury	102,134	2		3	9	10			5		3	12
Meriden (city and town)	36,251		1	3	2				3		1	9
Ansonia	19,034				2	2			1		1	1
West Haven	17,834		1	1	1	1						1
Naugatuck	16,350											1
Wallingford (town and boro)	12,483			1								1
Milford	13,473			1					1			
Derby	12,500				3							
Hamden	10,150	1		1	7							1
Branford (town and boro)	6,954								2			
Seymour	7,911	1		2		1			1			
Towns under 5,000	25,348			1	14	2		1	2			1
FAIRFIELD CO.	**363,740**	**11**	**10**	**18**	**33**	**24**		**5**	**28**	**3**	**11**	**35**
Bridgeport	166,644	4	3	6	12	15		2	14	3	6	23
Stamford (city and town)	46,218	6	3	1	8	5			1			1
Norwalk	29,596			2	3	2		1	5		1	5
Danbury (city and town)	21,931			2							1	1
Greenwich (town and boro)	25,207			3	6				3		2	
Stratford	16,085					1			1		1	
Fairfield	14,490		1	2	4	1			1			1
Shelton	11,134							1				1
Westport	5,597		1	1								1
Towns under 5,000	26,838	1	2	1				1	3			2
HARTFORD CO.	**384,608**	**10**	**6**	**26**	**32**	**15**	**2**	**5**	**26**	**4**	**15**	**134**
Hartford	160,199	5	4	9	17	8	1	4	12	1	3	92
New Britain	67,896	2	1	15	9	3			7	2	9	12
Bristol (city and town)	24,621											2
Manchester	21,018	1					1				1	4
Enfield	12,834				3	1				1		3
East Hartford	13,616								2			3
Southington (town and boro)	9,529	2		2		3			3			1
West Hartford	11,146				1						1	10
Windsor	6,436											1
Glastonbury	6,042											
Towns under 5,000	46,253		1		2			1	2		1	6
NEW LONDON CO.	**112,155**	**3**		**9**	**8**	**7**			**6**		**4**	**15**
Norwich (city and town)	30,425	3		7		5			4			2
New London	29,003			2	1	2			1			10
Stonington (town and boro)	10,819								1		1	
Groton (town and boro)	10,764				1						1	
Towns under 5,000	31,144				6						2	3
LITCHFIELD CO.	**79,851**				**8**	**1**					**1**	**2**
Torrington (town and boro)	24,492											
Winchester (inc. Winsted)	9,129											
Plymouth	6,349											
Watertown	7,192											
Towns under 5,000	36,689				8	1					1	2
WINDHAM CO.	**55,360**		**3**	**2**		**2**	**1**	**1**	**4**		**1**	**6**
Windham (inc. Willimantic)	14,268						1				1	3
Putnam (city and town)	8,990											
Plainfield	8,570		1			1			4			
Killingly (inc. Danielson)	9,051			2				1				2
Thompson	5,196											
Towns under 5,000	9,185		2			1						1
MIDDLESEX CO.	**47,152**	**7**	**10**		**90**	**1**			**3**			**4**
Middletown (city and town)	22,649	2	9		70							2
Middletown State Hospital									1			1
Towns under 5,000	24,503	5	1		20	1			2			1
TOLLAND CO.	**27,665**	**2**							**1**		**1**	**2**
Vernon (inc. Rockville)	8,822											
Stafford (town and boro)	5,457	2							1		1	
Towns under 5,000	13,386											2

Laboratories

SUMMARY OF BUREAU ACTIVITIES FOR SEPTEMBER, 1925

DIAGNOSTIC

	+	—	?	Total	
Typhoid	7	243	2	252	
Paratyphoid A	2	249	1	252	
Paratyphoid B	10	239	3	252	
Diphtheria	60	400	....	460	
Diphtheria Virulence	3	10	....	13	
Vincent's Angina	1	210	....	211	
Haemolytic Streptococci	3	205	....	208	
Tuberculosis	27	76	1	104	
Syphilis	345	1251	194	1790	
Gonorrhoea	19	97	....	116	
Pneumonia	....	2	....	2	
Pneumonia, Typings for Type IV	1	....	....	1	
Malaria	....	3	....	3	
Rabies	1	3	....	4	
Amoebic Dysentery	....	1	....	1	3669

Chemical and Bacteriological

Milk samples	298	
Water samples	226	
Oyster and clam samples	69	
Clinical thermometers tested	199	792
Total number of examinations made		4461

A Busy Month

The total of 4461 examinations made by the Bureau of Laboratories during the month of September, 1925, is an increase of 1,000 examinations over the number for September, 1924, and is more than double the number of examinations made in September, 1923.

The increase in examinations is distributed over all departments but the greatest increase is in the Division of Immunology. There were 1,790 complement fixation tests for syphilis made during September, 1925: 500 more than in September, 1923, and five times the number made in September, 1918.

Vital Statistics

MONTH OF AUGUST, 1925

Births

There were 2,295 births registered during the month. This is 569 below the 2,864 reported in 1924 and 494 below the average for the period 1920—1925 both inclusive. The average is 2,789. The standard deviation for the six years is 235 and as the dispersion due to chance is about 50 the Lexian ratio, 235 divided by 50, is nearly 5. This means, of course, that the dispersion is 5 times that due to chance, showing that there is considerable departure from the normal.

Eleven towns over 5,000 in population reported more births than in 1924, but none of these reported an increase of 10, the increases being only two or three in all cases except one.

The stillbirths number 81, a decrease of 5 below the 86 reported in 1924. The stillbirth rate among the total births was 34.09 ± 3.7 per 1,000 births. In 1924 the figures are 31.07 ± 3.4. The increase in the rate for 1925 is very nearly 3.00 and of no significance whatsoever in view of the 11 per cent chance fluctuation of each rate. These rates are on a monthly basis.

Deaths

The deaths number 1,233, a decrease of 9 when referred to the 1,242 reported in 1924. A study of the six year survey at the end of this article will show that the deaths run very uniformly for the month. The mean is 1,260 over the six years with a dispersion of ± 51. As the chance dispersion is about ± 35 the Lexian ratio, 51 divided by 35, is 1.4 which shows that the series is very nearly normal. Were it not for the year 1920 the series would exhibit even more pronounced uniformity. If 1920 is excluded the dispersion is ± 15 and the Lexian is less than unity—the series is sub-normal.

Below is given an analysis for certain causes of death, comparing 1925 and 1924.

Cause of Death	1925	1924	Increase	Decrease
Diseases of the Heart	178±13	167±13	11	....
Epidemic Encephalitis ..	0	6± 2	....	6
Pneumonia Undefined ..	1± 1	1± 1	....	....
Typhoid Fever	3± 2	6± 2	....	3
Measles	1± 1	1± 1	....	....
Scarlet Fever	1± 1	1± 1	....	....
Whooping Cough	13± 4	5± 2	8	....
Diphtheria	4± 2	7± 3	....	3
Influenza	3± 2	3± 1	....	....
Tuberculosis, Pulmonary	63± 8	83± 9	....	20
Tuberculosis, Other Forms	14± 4	18± 4	....	4
Cancer	136±12	135±12	1	....
Cerebrospinal Meningitis	1± 1	5± 2	....	4
Poliomyelitis	2± 1	6± 2	....	4
Pneumonia, Lobar	24± 5	14± 4	10	....
Pneumonia, Broncho	24± 5	23± 5	1	....
Diarrhoea & Enteritis, (Under 2)	50± 7	60± 8	....	10
Puerperal Diseases	12± 4	14± 4	....	2
Accident	116±11	104±10	12	....
Suicide	20± 4	17± 4	3	....
Homicide	2± 1	3± 2	....	1
Other causes	565±24	563±24	2	....
Total	1,233	1,242	48	57

After each figure in the column for 1924 is given the chance fluctuation in approximate figures. Looking over the column of increases it will be observed that Whooping Cough has increased by 4 times its chance dispersion. Ordinarily this might be considered significant but with the small figures to base our observation upon it is hardly likely that this is of especial importance. Lobar Pneumonia has increased by two and a half times its chance dispersion and again this is probably of small significance.

Of the decreases there is none of statistical significance but they are worthy of note, none the less. While the significance of figures may be lost sight of in a monthly analysis such as this, their long-time effect may be of the utmost significance. If the decreases continue to be as encouraging as the month has witnessed the significance will appear at the end of the year. The decreases in Epidemic Encephalitis, Pulmonary Tuberculosis and Diarrhoea and Enteritis under 2 are especially gratifying. Epidemic Encephalitis has entirely vanished. The accidental deaths are up, and of them 30 were due to automobile accidents, an increase of 4 over 26 reported in 1924. Again the state has experienced the **increase** expected to result from pure chance.

Infant Mortality

The infant mortality increased somewhat but not alarmingly. There were 9 more infant deaths and the mortality rate rose from 66.6 in 1924 to 74.7 for the current year.

Marriages

The marriages fell to 840 as compared with 1,074 in 1924. This is a decrease of 234. The average number of marriages is 987 making the month 147 below the mean. The scattering about the mean is 78 and as the chance dispersion is about 31 the scatter is about 2.5 times the amount to be expected from pure chance alone.

For Six Years—August, 1925

CONNECTICUT	1920	1921	1922	1923	1924	1925
BIRTHS *Birth Rate*	2951 25.4	3022 25.5	2823 23.4	2783 22.6	2864 22.9	2295 18.0
DEATHS *Death Rate*	1370 11.8	1220 10.3	1264 10.5	1229 9.9	1242 9.9	1233 9.7
MARRIAGES *Marriage Rate*	1051 9.1	1004 8.5	940 7.8	1013 8.2	1074 8.6	840 6.6
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	153 11.2	138 11.3	113 8.9	137 11.1	116 9.3	91 7.4
DEATHS UNDER 1 YEAR *Rate Per 1,000 Births*	324 113.8	217 76.4	215 82.5	189 73.9	176 66.6	185 74.7

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

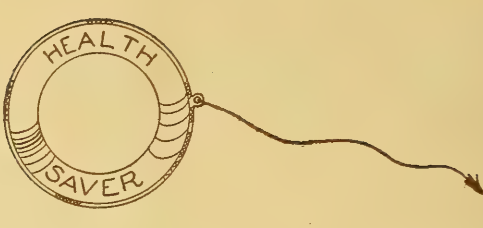
Births, Marriages and Deaths

SEPTEMBER, 1925 Statistics	Population Est. as of July 1, 1925 Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Stillbirths	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,529,688	2295	81	840	1233	9.7	0.5	74.7	185	38	414
Ansonia	19,034	26	1	4	12	7.6	0.6	80.0	2	1	3
Branford	6,954	7	....	3	7	12.1	....	....	....	....	5
Bridgeport	166,644	248	10	81	104	7.5	0.5	47.6	13	2	26
Bristol	24,621	41	2	22	16	7.8	0.5	40.0	2	....	8
Danbury	21,931	45	....	15	29	15.9	0.5	92.8	4	....	12
Derby	12,500	34	2	6	11	10.6	1.9	27.2	1	....	4
East Hartford	13,616	10	....	12	9	7.9	....	160.1	2	....	2
Enfield	12,834	35	....	13	6	5.6	....	40.5	1	1	1
Fairfield	14,490	18	1	6	7	5.8	1.7	....	....	....	4
Glastonbury	6,042	4	....	1	1	2.0	....	155.8	1	....	....
Greenwich	25,207	39	....	....	19	9.0	0.5	....	....	....	5
Groton	10,764	12	1	4	4	4.5	....	....	....	....	2
Hamden	10,150	17	1	7	7	8.3	....	122.4	2	....	4
Hartford	160,199	317	16	100	158	11.8	0.6	108.0	36	10	39
Killingly	9,051	10	....	10	7	9.3	....	....	....	....	5
Manchester	21,018	39	5	10	17	9.7	....	26.2	1	1	6
Meriden	36,251	64	2	22	36	11.9	0.7	85.9	5	1	19
Middletown	22,649	....	....	....	41	21.7	....	60.0	3	....	24
Milford	13,473	....	....	....	....	....	....	....	....	....	....
Naugatuck	16,350	10	....	6	9	6.6	....	143.5	2	....	6
New Britain	67,896	119	4	41	60	10.6	0.5	182.3	25	2	12
New Haven	178,735	317	11	124	152	10.2	0.2	81.0	27	6	39
New London	29,003	54	2	26	35	14.5	....	61.6	4	3	8
Norwalk	29,596	51	5	23	28	11.4	0.8	85.1	5	....	11
Norwich	30,425	65	1	22	36	13.8	0.4	43.6	3	1	15
Plainfield	8,570	6	....	2	4	5.6	....	86.3	1	....	2
Plymouth	6,349	9	....	3	5	9.4	1.9	118.8	1	....	1
Putnam	8,990	15	....	9	8	10.7	....	104.8	2	....	5
Seymour	7,911	5	....	1	5	7.6	....	....	....	....	3
Shelton	11,134	9	3	2	13	14.0	....	140.3	2	....	1
Southington	9,529	18	....	1	4	5.0	....	129.7	2	....	1
Stafford	5,457	14	....	5	4	8.8	....	62.8	1	....	1
Stamford	46,218	103	3	45	41	10.6	0.3	40.2	4	4	7
Stonington	10,819	7	....	7	8	8.9	....	69.8	1	....	2
Stratford	16,085	20	....	10	7	5.2	1.5	....	....	....	4
Thompson	5,196	8	....	1	5	11.5	....	95.2	1	....	3
Torrington	24,492	38	2	13	16	7.8	0.5	45.3	2	2	5
Vernon	8,822	9	....	3	4	5.4	1.4	96.0	1	....	1
Wallingford	12,483	13	1	5	7	6.7	1.9	....	....	....	5
Waterbury	102,134	196	2	38	66	7.7	0.7	69.2	14	1	14
Watertown	7,192	9	....	1	3	5.0	....	155.8	1	....	1
West Hartford	11,146	15	1	9	8	8.6	2.2	....	....	....	6
West Haven	17,834	34	....	9	22	14.8	....	....	....	....	5
Westport	5,597	6	....	2	4	8.6	....	....	....	....	3
Winchester	9,129	16	1	4	14	18.4	1.3	....	....	....	6
Windham	14,368	....	....	....	....	....	....	....	....	....	....
Windsor	6,436	3	....	2	4	7.5	....	....	....	....	1
Towns under 5,000	209,346	160	4	110	170	9.7	0.05	51.6	13	3	77

for the month of September, 1925

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
178	......	1	3	1	1	13	4	3	63	14	136	1	2	24	21	56	12	116	20	2	457	259
1						2			1		3							2				1
1										1					1				1		1	[illegible]
16			1				1		6	3	15		1		2	3	1	7	3		4	17
1										1	2			1				2			1	
4										2	2							2	1		[illegible]	
2									1									3			7	[illegible]
2											2					1		2				1
										1	2								1			
											2				1				1			[illegible]
						1																
3			1						1		3			1				2			9	7
2																						
1																						
13			1			3	1		5	1	16		1	2	7	19	2	17	2	1	80	32
1									1													1
2											2			1		1		2		1	5	
5						2			3		4			2	1	1		5			17	7
10									1		5				1			3			26	21
3											1											1
6								2	1		6			2				7			14	2
18						2			1	1	21			3	5	8	3	13	1		82	[illegible]
3						1					1					2		6			19	10
1								1	2		2			2			1	3			11	5
8							1		3		6						1	4	2		12	5
											2					1						
2						1			1													
2																					3	6
					1						2											
									9										1		9	9
										1								1			2	1
3		1		1			1		1		2				2	1	1	7			14	[illegible]
2											1											
2									1		1											
3																						
											1					1	1	1			4	1
2									1													
									1		2							1			4	
6									4	3	3	1			2		1	7	1		32	
1																						1
									2		2				1						3	1
3									7		2							1			10	16
																					1	2
3									1		1					1			1		5	5
											1							1				1
31									9		21						1		3		[illegible]	



TO REGISTRARS---

A late Report of Deaths may affect

1. State Death rate.
2. Infant Mortality Rate.
3. Specific Death rate for certain diseases.

A late Report of Births may affect

1. State Birth rate.
2. Infant Mortality rate.
3. Stillbirth rate.

All late reports delay statistical analysis and necessitate changes in totals and sub-totals.

Registrars are requested to send in their returns promptly in order that Connecticut may lead in the matter of vital records.

PARENTS SHOULD KNOW

THAT

NOW IS THE TIME

TO IMMUNIZE

CHILDREN AGAINST

DIPHTHERIA

Your Physician Can Protect Children
If You Ask Him To

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 39 November, 1925 No. 11

This Issue Contains

STANLEY H. OSBORN, M. D., C. P. H., Commissioner

ISSUED BY
State Department of Health
HARTFORD

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CONNECTICUT STATE DEPARTMENT OF HEALTH
8 WASHINGTON STREET,
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CONNECTICUT
HEALTH BULLETIN

Vol. 39 November 1925 No. 11

Issued Monthly by the
STATE DEPARTMENT OF HEALTH

FOOD AS A FACTOR IN HEALTH

By Elizabeth C. Nickerson

The adult who reaches the age of 40 has spent one year and eight months of his lifetime eating three meals a day, allowing fifteen minutes each for breakfast and lunch, and thirty minutes for dinner. Whether this time has been spent to advantage may be judged from the appearance of such an individual. If his weight is not greatly in excess, above or below the normal for his height and age—if his complexion is clear and ruddy—if he has energy plus, and can attack the day's problems with enthusiasm, the chances are that he has controlled and not been controlled by his food habits.

Some Food Plan Needed.

Some adults reach this age with regret that they have not tackled their food problems in the right way, that they have not had sufficient knowledge of the fundamentals of food, and are faced with the necessity for making a complete change if they would remain healthy during the remainder of their lives. There are others, however, who have no fears ahead because their health plan has always included this most important factor—carefully selected food.

One cannot reach adult life healthfully unless the matter of food has been seriously considered during infancy and childhood. Food habits acquired early in life remain fixed with the adult and yield beneficial results in health and strength.

Food has assumed new importance in health work through the advances in nutrition which have been made by scientists during the last twenty-five years. Through this experimental work the needs of childhood have been more fully established. The quality of foods has been given a new valuation. The amount of food needed for various activities has been determined. The knowledge of the relation of food to certain abnormal conditions has led to a wider use of the dietetic

treatment of disease. So, in health and disease food plays a part. One might even go so far as to say that certain diseases may be eliminated through the proper selection of food.

Food Through the Growing Period

At no other time is the right food so important as during childhood. Beginning with the preschool child the simplest type of food should be chosen. Variety is not an essential, but careful selection and preparation are. This is the period of growth, of formation of new muscle tissues, of the extension of the body framework, of the development of the teeth. From the food must be secured the elements which make up the structure of these various tissues, and promote their growth. Through experimental work, it has been determined that milk promotes the growth of each of these tissues since it provides the highest quality of proteins, calcium and phosphates in concentration best suited to the development of the bony structure and the teeth, and fat of a superior quality since it has associated with it the vitamins—those factors essential to growth. Every child that is given a quart of whole milk a day is storing up more health and strength than can be supplied by any other food. The food of childhood must be rich in growth elements, particularly the mineral elements and vitamins. Beside milk these are found in the green vegetables, the whole grain cereals and in fruits.

A minimum health diet for children then would contain each day:

- At least two cups of whole milk
- A green vegetable beside potatoes at least three or four times a week.
- Fresh fruit several times a week and dried fruit the other days.
- Some dark bread or whole grain cereal.
- Some fat, preferably butter.
- Some eggs, fish, meat or cheese.

Importance of Vitamins.

The first four groups should be increased whenever economy permits. All foods should be simply prepared, thoroughly cooked, and presented in a pleasing way. It must be remembered that a very young child has an aversion to any strange new food, so it should be made as appealing as possible, and not forced on the child in too large quantities. Thus may green vegetables be safely introduced into the diet, if they make their appearance slowly. An aversion to the drinking of

milk may be offset by a liberal use of milk in cooked dishes, and thus may its benefits be secured since the cooking has probably destroyed none of its value. The yolks of eggs have assumed new importance in the child's diet through the discovery of their vitamin D content, which, also present in cod liver oil, is one of the factors in the control of rickets. Associated also with the fat of the egg yolk is vitamin A, one of the most important factors in promoting growth. This vitamin is not widely distributed in foods its chief sources being the fat of milk, cream, butter, yolks of eggs, green leafy vegetables, such as spinach or lettuce, and glandular tissue such as liver. Animal experimentation has proven the need for vitamin A as a protective measure to decrease susceptibility to infections, particularly that of the lung tissue, since this often results from a long continued absence of vitamin A in the diet.

Teeth and Foods.

Food in relation to dental development has been rightly emphasized in recent years. Evidence has been accumulating that without a liberal supply of calcium, phosphates, and vitamin C in the diet, a sound dental structure cannot be produced, and the presence of dental caries is easily traced to the lack of these elements in the food supply.

Extra Calories for the Underweight.

Probably one of the greatest needs of childhood and adolescence is the taking of *enough* properly selected food to meet the demands of energy. Often there is no other problem for the underweight than to increase the amount of food taken. This is essentially a period of activity and the total calories must give an adequate fuel or energy supply. This may easily be accomplished by increasing the *amount* at each of the regular meals, or by the addition of two extra lunches taken at definite periods daily. Thus a midmorning and a midafternoon luncheon each of a glass of milk and two slices of bread spread thickly with butter will increase the total daily amount by 740 calories.

Food for the Adult

Once having acquired the taste for a well balanced diet, the adult will instinctively select those foods which are healthful. No further effort need be made to analyze his diet from a health point of view, since those individuals who have formed the habit in childhood to eat daily some milk, green vegetables and fruits will continue this in later life and benefit accordingly. But there are many adults who have not

been dietetically guided in their earlier years, and have fallen into habits in which personal preference plays too large a part. Long continued use of a one-sided diet, or one in which essential health factors are lacking is likely to result disastrously by increasing the susceptibility to some infection, or bring such an adult to later life in which he drags out only a mere existence.

Food Needs.

Food problems for the adult are somewhat different than for the child, since growth does not have to be considered. However, proteins, mineral elements and vitamins are still essential to nourish and strengthen the living tissues. So milk or milk products, green vegetables and fruits should be given a prominent place in the diet. While the bones and teeth have already been formed, unless the diet contains those elements which make up their structure they do not remain well nourished. Witness the dietetic use of scientific facts in the treatment of ununited fracture of the bones with a milk diet in which calcium predominates. Likewise a diet of vegetables has been successfully used in a similar case where the patient's previous history showed "no vegetables in the diet". Such foods are also essential to sound teeth and doubtless many of the dental difficulties of adult life could be avoided if the diet contained foods rich in mineral elements and vitamins in liberal amounts. With a pint of whole milk daily an adult is amply supplied with calcium, and when the diet contains daily, green vegetables and fresh fruit and some protein in the form of eggs, cheese, meat or fish, the essential elements are all met.

Regulating the Amount.

Having provided the essential factors in the diet the chief problem for the adult is to regulate the amount. This depends on his activity and habits of life, whether he leads an active outdoor life or a sedentary life indoors, whether his physical makeup is toward a rushing nervous existence, or a calm, more restful one. Here science has again come to the rescue for foods have been analyzed as to their fuel value, and various activities have been studied by means of the calorimeter to determine the number of heat units required. Thus people who lead an active life require more calories or heat units of food than those who are sitting at rest. Between these two limits the requirements vary. To make a study of one's day is a simple matter, how many hours sitting, how many hours standing, how many of walking, of vigorous exercise, of sleeping. Every form of activity may be

fitted into the day and an energy value assigned to the whole, not by guesswork but by actual calculation of its different parts.

For example take a man of 154 lbs. with the following daily plan:—

Sleeping	8 hrs.	@	65 cal. per hr.	— 520 calories
Sitting, at desk	6 hrs.	@	100 cal. per hr.	— 600 calories
Standing	2 hrs.	@	115 cal. per hr.	— 230 calories
Sitting, at meals	1 hr.	@	100 cal. per hr.	— 100 calories
Walking	2 hrs.	@	200 cal. per hr.	— 400 calories
Sitting, reading	4 hrs.	@	100 cal. per hr.	— 400 calories
Active exercise	1 hr.	@	290 cal. per hr.	— 290 calories
Total				2540 calories

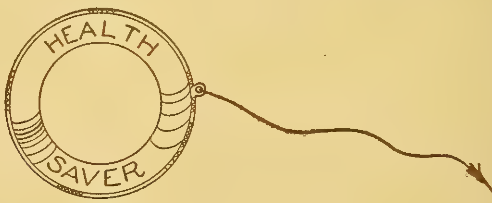
This is a man of sedentary habits and his fuel requirement is not high. With more active work this will increase accordingly. Many adults are faced with the evidence of advancing weight, and they often view this situation with alarm. Had they kept a better balance between their activity and their food intake this would not prove to be a serious matter. During childhood a certain amount of surplus weight is rather an advantage, but to an adult of 40 or more years it is a liability. It is considered as such by insurance companies who declare an adult who is excessively overweight, a poor risk. It has been stated that 5 pounds overweight at the age of 45 increases the average death rate 4 per cent, 10 pounds overweight increases it 8 per cent and 20 pounds increases it 18 per cent. There is not the proportionate increase in death rate for those who are underweight.

Avoid Excess.

Usually this problem may be handled safely by watching the food intake more carefully. It is often not the amount eaten at regular meals that counts so much as those extras which have become almost a habit among adults—the soda fountain decoctions, excessive use of sweets, a large use of doughnuts, pastries and rich cakes, each small portion of which may yield 200 extra calories or more. The safe rule of getting up from the table without feeling satisfied is not often the prevailing rule. Take those cold winter mornings when griddle cakes or waffles make their appearance. Is one satisfied with one? Yet each griddle cake yields 100 calories and each six inch waffle about 200 calories. Add to these their quota of butter and syrup and multiply by the number one is tempted to eat, and the fuel value mounts out of all proportion to the twenty-five 100 calorie portions required for our adult of sedentary habits quoted above.

The American diet is getting to be a lazy man's diet. We want our food soft. We are in a rush and do not want to be delayed by the necessity of chewing it. Consequently the consistency of our food has changed and it is frequently lacking in the roughage or indigestible fibre which is so essential to the stimulation of the lower intestinal tract. The fires of the furnace cannot burn brightly unless the ashes are raked out below—so health suffers if these waste products of food digestion are allowed to accumulate. Peristaltic action is greatly stimulated by certain mineral salts and acids as found in fruits, and by the coarse fibres of green vegetables and whole grain cereals and breads. A certain amount of fat in the diet is also of assistance, and an important factor is a liberal use of water during the entire day, starting with one glass the first thing in the morning. Many adults are addicted to the habit of drugs to stimulate peristaltic action. This is an unwise habit as shown by a scientific study of such drug laxatives which showed that a continuous use of them aggravated rather than relieved the condition.

Thus health is within the reach of all through the adoption of a safe and sane diet. Nutrition has assumed new importance through this new evaluation of foods and human needs, and is now recognized as the most important factor in health from infancy to old age.



"The most fundamental of all the factors which contribute to success in any enterprise is health, and the primary factor in making a faultless organism, either human or animal is the diet. —"McCollum

NEWS FROM THE FIELD

Among the Health Officers:

Samuel Bartholomew, M. D., of Goshen, has been appointed health officer to fill the vacancy caused by the death of Dr. Carrie North Stevens.

Lester F. Turney, M. D., has been appointed health officer of Windsor, replacing the late Dr. Howard F. King.

Mr. Marshall E. Case has been appointed health officer of Barkhamsted, replacing Mr. Herbert Case, who has resigned.

M. T. Sheehan, M. D., is now health officer of Wallingford Boro, replacing Dr. W. J. Riordan.

Elias Pratt, M. D., has returned to Torrington, releasing Dr. H. D. Moore, who has been acting health officer.

Mr. Charles B. Eastman has been appointed health officer of Woodbury, replacing Mr. Charles H. Capewell.

Dr. Voyle A. Paul, a member of the city Board of Health of Stamford is acting as health commissioner until an appointment is made to fill the vacancy caused by the resignation of Dr. Raymond D. Fear.

Carolyn Hanchett has been appointed health officer of the town of Canaan replacing Isaac P. Hornbeck.

Construction News:

The drought of the past two years was a direct factor in instigating the following construction now under way to prevent future shortages of water supply.

Farmington—Connection of public system with Hartford supply line.

Norwich—Construction of dam and pipe line for a new municipal supply at an estimated cost of over $1,000,000.

Shelton—Construction of pipe line joining public system with supply of Bridgeport Hydraulic Co. There is now a connection between the Derby and Shelton systems.

Other works of interest which are under way are:

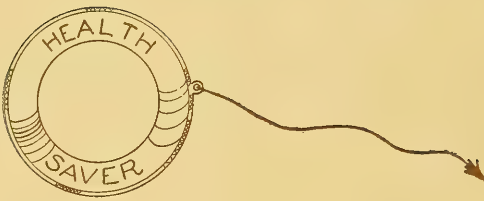
Bridgeport—Construction of 6 billion gallon Easton Reservoir to augment supply.

East Windsor—Drilling of wells to replace present supply of Broad Brook Co., as recommended by this Department.

New Haven—Construction of 16 billion gallon North Branford Reservoir to increase supply.

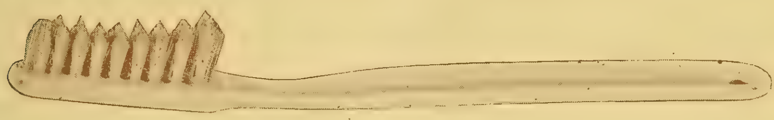
Wallingford—Construction of screens, grit chamber, Imhoff tanks and sludge beds for treatment of sewage from municipal system.

Publicity. The 1925 health exhibiting at agricultural fairs ended on October 14 after three days at Stafford Springs. The exhibit was sent into seven of the counties of the state, reaching a total of thirteen towns, all but one of which, the State Fair at Charter Oak Park, were in rural sections. Over twenty-five thousand people were reached by this service, and nearly three thousand children were weighed and measured. About a quarter of those who visited the exhibit received the health message through the health films, 110 showings of which were given. The health leaflets proved popular, some twenty-five thousand copies being carried away for later use in the homes.



One child of every dozen ill with diphtheria dies.

You should protect your child by asking your physician to immunize him.



CARE OF THE TOOTHBRUSH

Very few people know how to care for a toothbrush.

When buying a toothbrush get one that is small enough to reach the back surface of the last tooth in the mouth and that will go under the tongue when cleaning the inside surfaces of the lower teeth.

The brush should have bristles of uneven length. Brushes with flat surfaces do not clean the teeth well.

After using the brush rinse it well; warm water, not hot, is best because all tooth powders and pastes have soap in them. Tooth paste has glycerine in it. These materials as well as the dirt and food left on it from the brushing should be washed out of the brush.

Hang the brush in a clean, dry, and if possible sunny place. Never keep toothbrushes in a dusty dark corner.

Cleanse the brush once a week. The best way to do this is to moisten the brush, and fill the bristles as full as possible with common salt. Then place the brush in a clean SUNNY spot. The chemical action produced by the sun, sterilizes the brush without ruining it as boiling will do.

Many people keep two brushes in use all the time. This method is very good for those who do not like to use a soft brush. By being used every other time the brushes have plenty of time to dry and the bristles to stiffen.

Discard any old brush that has become caked with dirt and tooth paste at the base of the bundles of bristles.

Laboratories

SUMMARY OF BUREAU ACTIVITIES FOR OCTOBER, 1925

DIAGNOSTIC

	+	—	?	Total	
Typhoid	6	308	7	321	
Paratyphoid A	....	318	3	321	
Paratyphoid B	5	313	3	321	
Diphtheria	385	1978	....	2363	
Diphtheria Virulence	7	25	....	32	
Vincent's Angina	4	471	....	475	
Haemolytic Streptococci	8	464	....	472	
Tuberculosis	20	73	....	93	
Syphilis	274	1460	166	1900	
Gonorrhoea	31	86	....	117	
Pneumonia Typings for Type IV	1	....	....	1	
Malaria	....	3	....	3	
Rabies	3	3	....	6	
Anthrax	2	2	....	4	
Special	....	2	....	2	
					6431

CHEMICAL AND BACTERIOLOGICAL

Milk samples	186	
Water samples	240	
Sewage samples	1	
Oyster and clam samples	79	
Clinical thermometers tested	24	
		530
Total number of examinations made		6961

Anthrax Specimens Examined

During October four specimens, from two patients, were examined for the presence of anthrax bacilli and two specimens, both from one patient, showed virulent anthrax bacilli. Swabbings from a lesion were made in each instance and the bacterial growth transferred to Loefflers blood serum and sent to the Laboratories for incubation and microscopical examination.

Vital Statistics

MONTH OF SEPTEMBER, 1925

Births

The births for the month number only 2,208, a decrease of 364 below the 2,572 reported in 1924. This results in a birth rate of 17.3 and it is the first time in the last six years that the rate for this month has been below 20.0. That there has been a general down trend of statistical significance is shown by the following table for births, compiled for the six years preceding and including 1925.

Month	Births Reported	Mean for 6 years	Dis-persion	Chance Dispersion	Trend	Lexian Ratio	Lexian Ratio ex Trend
Jan.	2,446	2,756± 82	198±57	±52	—108± 8	3.8	2.3
Feb.	2,093	2,532±115	277±82	±50	—152± 6	5.5	1.8
Mar.	2,431	2,813± 95	229±65	±53	—123± 6	4.3	1.7
Apr.	2,286	2,590± 89	214±61	±51	— 95± 9	4.2	2.7
May	2,371	2,707± 80	193±55	±52	— 94± 7	3.7	2.0
Jun.	2,406	2,601± 53	127±36	±51	— 57± 5	2.5	1.6
Jul.	2,460	2,767± 66	159±45	±52	— 72± 7	3.0	2.0
Aug.	2,295	2,790± 98	235±67	±52	— 99±11	4.5	3.1
Sep.	2,208	2,639± 94	225±64	±51	—122± 6	4.4	1.6

The table above shows that for every month there has been no inconsiderable fall below the average, amounting to 495 and 431 for August and September respectively. The dispersion is also large but the chance dispersion runs rather constantly. The trend over the short period of six years is downward for each month and while the standard deviations indicate decided significance the interval of six years is not of sufficient length to warrant great confidence. The month of maximum downward trend was February, and June showed the minimum.

The Lexian ratios show how much the series departs from the normal, and the last column exhibits the departure from normality when the trend is excluded and, on the whole, shows that there is considerable residual disturbancy.

There are 47 towns over 5,000 in population in the State and of these 20 reported more births in 1925 than for September 1924, but the increases were, in all cases except one, very small. New Britain reported an increase of 24 and is the only city to report an increase of over 10.

Deaths

During the month 1,276 deaths were recorded, an increase of 53 over 1,223 reported in 1924. Over the period of 1920-1925 the mean number of deaths was 1,241±19 and therefore 1925 is 35 above the mean, which is exactly the chance fluctuation of the mean. The standard deviation of the period is 46±13 which is not much more than 35, the chance standard deviation. As an example of an insignificant trend, if it be calculated for the number of deaths, a negative trend of 3.8 ±3.0 will result. It will be noted that the standard deviation of this trend is practically as large as the trend itself and shows that the trend is subject to fluctuations of as much as 100 per cent of itself, and therefore worthless.

An analysis of certain diseases is given below.

Cause of Death	1925	1924	Increase	Decrease
Diseases of Heart	183±13	169±13	14±19	....
Epidemic Encephalitis	2± 1	4± 2	....	2±2
Pneumonia Undefined	0	1± 1	....	1±1
Typhoid Fever	4± 2	8± 3	....	4±3
Measles	0	0	....	....
Scarlet Fever	1± 1	1± 1	....	....
Whooping Cough	7± 3	9± 3	....	2±4
Diphtheria	5± 2	14± 4	....	9±4
Influenza	9± 3	4± 2	5± 4	....
Tuberculosis Pulmonary	82± 9	73± 8	9±12	....
Tuberculosis Other Forms	3± 2	5± 2	....	2±3
Cancer	142±12	133±12	9±17	....
Cerebrospinal Meningitis	2± 1	2± 1	....	....
Poliomyelitis	3± 2	4± 2	....	1±3
Lobar Pneumonia	28± 5	20± 4	8± 7	....
Broncho Pneumonia	27± 5	28± 5	....	1±7
Diarrhoea and Enteritis, (Under 2)	64± 8	39± 6	25±10	....
Puerperal Diseases	9± 3	14± 4	....	5±5
Accident	96±10	93±10	3±14	....
Suicide	17± 4	12± 3	5± 5	....
Homicide	5± 2	3± 2	2± 3	....
Other causes	587±24	587±24	....	....
	1276±36	1223±35	80	27

In the August Bulletin it was shown that the chance fluctuation in the number of deaths is the square root of the number. Thus, for Diseases of the Heart in 1925 there were 183 deaths and the square root of 183 is about 13. In 1924 there were 169 deaths from this cause and the square root of 169 is exactly 13. There was an increase, then, of 14 and the question will quite properly arise as to the significance of this increase. The standard deviation of an increase or decrease is the *square root* of the sum of the squares of the standard deviations of the items, assuming that the items are uncorrelated. But the squares of the standard deviations of the items are the items themselves when dealing with chance

fluctuations such as the above. Therefore the standard deviation of the increase 14 is the square root of 352 which is about 19. Whence, the increase is 14±19, showing that it is less than its standard deviation and insignificant. When an increase or decrease is 3 or more times the value of its standard deviation it is to be considered as significant. There is, however, the *possibility* of significance when it is more than twice its standard deviation.

Running down the list of increases and decreases above the the decrease in Diphtheria is possibly significant. The increase in Diarrhoea and Enteritis under 2 is also on the threshold of significance.

In passing it may be noted that the increase in the number of deaths from all causes is 53 but the chance standard deviation of the difference between 1,276 and 1,223 is the square root of 2,499 which is very nearly 50. Therefore the increase in all causes is 53±50 and wholly insignificant.

The increase in accidental deaths was only 3. There were, however, 35 deaths due to automobile accidents as compared with 25 in 1924. This is an increase of 10. In discussing increases of this sort it is best not to take refuge in the security of mathematical analysis. The increase in automobile accidents which is continually experienced is significant, chance fluctuation to the contrary notwithstanding.

Marriages

Records of 1,305 marriages received, a decrease of 46 from the 1,351 reported in 1924, and 94 below the average of 1,399 over the period 1920-1925.

For Six Years—September, 1925

CONNECTICUT	1920	1921	1922	1923	1924	1925
BIRTHS *Birth Rate*	2861 24.6	2890 24.4	2684 22.2	2616 21.3	2572 20.5	2208 17.3
MARRIAGES *Marriage Rate*	1548 13.3	1316 11.1	1317 10.9	1554 12.6	1351 10.8	1305 10.2
DEATHS *Death Rate*	1326 11.4	1186 10.0	1216 10.1	1220 9.9	1223 9.8	1276 10.0
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	150 11.3	140 11.8	108 8.9	114 9.3	115 9.4	113 8.9
DEATHS UNDER 1 YEAR *Rate Per 1,000 Births*	281 98.6	194 68.3	171 60.1	195 76.3	177 66.9	175 71.1

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

SEPTEMBER, 1925
Statistics

	Population Est. as of July 1, 1925 Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Stillbirths	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	5 years and over
State of Connecticut	1 529,688	2208	63	1305	1276	10.0	0.6	71.1	175	52	443
Ansonia	19 034	15	...	9	8	5.0	0.6	39.9	1	...	2
Branford	6.954	13	...	8	5	8.6	1.7	102.6	1	...	1
Bridgeport	166,644	243	1	113	102	7.3	0.3	36.6	10	2	29
Bristol	24,621	37	2	30	20	9.7	0.5	119.2	6	...	3
Danbury	21,931	39	1	12	18	9.8	1.1	69.5	3	...	6
Derby	12.500	29	2	10	12	11.5	...	81.6	3	...	3
East Hartford	13,616	11	1	9	6	5.3	...	161.1	2	...	1
Enfield	12 834	22	1	14	12	11.2	...	202.7	5	...	3
Fairfield	14,490	8	...	12	9	7.5	0.8	...	...	...	4
Glastonbury	6.042	5	...	6	3	6.0	...	...	...	...	2
Greenwich	25.207	38	2	64	22	10.5	...	...	...	1	12
Groton	10,764	9	...	9	9	10.0	1.1	88.8	1	1	4
Hamden	10,150	15	1	7	9	10.6	...	...	...	...	3
Hartford	160,199	290	12	154	147	11.0	0.8	71.2	24	5	42
Killingly	9,051	14	1	5	7	9.3	...	122.4	2	1	3
Manchester	21,018	34	2	18	14	8.0	0.6	105.0	4	...	5
Meriden	36,251	61	1	22	29	9.6	0.7	17.2	1	1	11
Middletown	22,649	...	...	...	37	19.6	...	19.9	1	2	17
Milford	13.473	12	1	7	14	12.5	...	71.8	1	...	10
Naugatuck	16,350	11	...	8	7	5.1	0.7	71.0	1	1	1
New Britain	67,896	129	1	66	55	9.7	0.7	109.3	15	3	13
New Haven	178,735	304	12	193	128	8.6	0.3	50.7	17	10	40
New London	29,003	46	1	35	38	15.7	2.1	61.9	4	3	16
Norwalk	29 596	53	2	38	28	11.4	0.4	33.9	2	1	13
Norwich	30,425	44	1	25	27	10.6	0.7	58.1	4	2	9
Plainfield	8,570	8	...	7	4	5.6	1.4	...	...	...	3
Plymouth	6,349	2	...	10	1	1.9	...	...	...	...	...
Putnam	8,990	15	...	9	7	9.3	1.3	...	...	3	4
Seymour	7,911	3	...	...	6	9.1	1.5	...	...	...	4
Shelton	11,134	15	1	6	12	12.9	5.4	70.1	1	1	3
Southington	9,529	9	1	10	6	7.6	2.5	129.7	2	1	2
Stafford	5,457	17	1	7	8	17.6	...	...	...	1	2
Stamford	46,218	82	5	53	46	11.9	0.5	71.3	7	1	10
Stonington	10,819	12	...	7	8	8.9	1.1	...	...	...	4
Stratford	16,085	15	...	14	7	5.2	0.7	...	...	...	6
Thompson	5,196	4	...	1	2	4.6	...	...	...	...	...
Torrington	24,492	45	...	17	18	8.8	1.5	67.6	3	...	4
Vernon	8,822	11	...	11	6	8.2	1.4	...	...	...	4
Wallingford	12.483	15	1	5	9	8.7	...	...	...	...	7
Waterbury	102,134	184	2	89	68	8.0	0.2	74.1	15	3	10
Watertown	7,192	7	...	7	4	6.7	...	311.6	2	...	...
West Hartford	11.146	12	...	8	9	9.7	...	...	...	...	4
West Haven	17,834	39	...	13	24	16.1	...	88.0	3	...	9
Westport	5,597	6	...	7	7	15.0	...	...	...	...	2
Winchester	9,129	9	1	2	9	11.8	...	53.3	1	1	5
Windham	14.368	14	2	...	19	15.9	...	69.4	2	1	9
Windsor	6,346	7	...	1	7	13.1	...	367.3	3	...	2
Towns under 5,000	209,346	195	4	147	223	12.8	0.6	111.1	28	6	96

for the month of September, 1925

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
183	2	......	4	......	1	7	5	9	82	3	142	2	3	28	27	64	9	96	17	5	437	257
2						1																
								1	1		1					1		1				
16					1				4		18			3	4	2		8	2		43	15
1											3					5		3			3	3
7						1			1		1							2			5	3
2			1								1							4			6	5
1											1				1							1
5																1			2			
2									1		3				1							3
1																			1			
3														1		1			1		11	5
								1	1		2					1		1				3
3											1						1					
12	2		1				1	2	3		19	1	1	2	2	12	3	14	2		79	35
1											2		1		1	1						
2								1	1		1			1				1			6	
2									3		5			1	3			2			11	4
8			1						2		3				3	1		3			28	22
2								1		1	1								1		2	4
1																2		1				
12									2		4			4		8	1	2		2	14	5
14						3			2		18				3	8	1	10			61	26
5									4		4					2	1	2			16	3
2								1	1		4					2		3	1	1	5	4
3						1		1	6		4			1		2		1			9	5
									1		1											
1																						
2																1		2			1	2
1									1		1											1
2									5												4	4
2							1		1													
1											1			1				1			2	
3			1					1	2		5				1		1	3	1		26	7
									1		2			1					1			
									1		1			1								
																1						1
1									3		3		1			2		1	1	1	3	1
1									1		1											
2									1		1										3	2
7							1		2		7			3	3	1		12			26	9
1														1								
2											3			1							2	1
3									8					1	1			1		1	10	10
1															1			1			5	4
2							1											1			3	2
4											1	1		1		1		1			7	2
2											1					2						
38						1	1		23	2	18			5	3	7	1	15	4		46	65

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF OCTOBER, 1925

(as compared with previous months)

A comparison of the daily morbidity reports received during the month of October, 1925, with the corresponding month for the years 1920, 1921, 1922, 1923, and 1924.

DISEASE	Average 1920-1924 for October	Mean 1920-1924 for October	1920	1921	1922	1923	1924	1925
Cerebrospinal Meningitis ..	6	4	11	4	2	8	4	3
Diphtheria	300	354	410	361	354	203	173	127
Encephalitis Epidemic	3	5	1	5	......	2	6	1
Measles	175	215	285	110	215	241	24	125
Poliomyelitis	14	13	9	13	10	17	19	2
Scarlet Fever	225	212	279	186	212	201	247	134
Smallpox	......	......	......	......	......	......	......	......
Typhoid Fever	49	51	62	51	41	60	30	42
Tuberculosis Pulmonary ..	132	129	164	112	131	129	122	108
Whooping Cough	185	204	282	122	219	100	204	161

A comparison of the morbidity on these diseases for the two preceding months, August and September, with the October record is as follows:

	August	September	October
Cerebrospinal Meningitis	3	3	3
Diphtheria	64	67	127
Encephalitis Epidemic	1	2	1
Measles	47	31	125
Poliomyelitis	14	13	2
Scarlet Fever	71	70	134
Smallpox	......	......	......
Typhoid Fever	41	35	42
Tuberculosis (pulmonary)	100	110	108
Whooping Cough	323	256	161

Cases of Other Reportable Diseases

Anthrax	2	Mumps	62
Chickenpox	75	Paratyphoid Fever	3
Conjunctivitis Infectious	1	Septic Sore Throat	6
Dysentery Bacillary	2	Tetanus	3
Dysentery Undefined	2	Gonorrhoea	80
Encephalitis Epidemic	1	Syphilis	107
German Measles	8	Chancroid	1
Influenza	11		
Malaria	1	Total	365

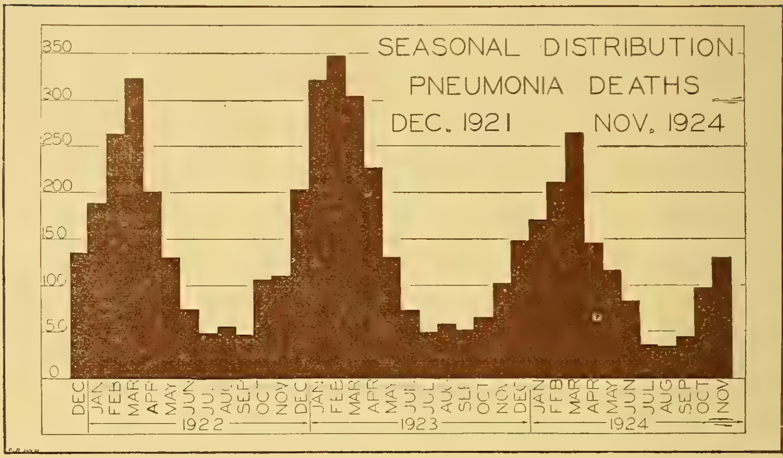
Cases of Occupational Diseases

Anthrax	1
Fulminate Rash	2
Lead Poisoning	1
Occupational Dermititis	2
Total	6

Cases of Certain Reportable Diseases

OCTOBER, 1925	Population Est. as of July 1, 1925	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Broncho-Pneumonia	Other Com. Diseases
State Total	1,529,688	42	125	134	161	127	3	2	108	6	113	60	365
NEW HAVEN CO.	**459,157**	**15**	**31**	**38**	**59**	**33**			**39**	**4**	**36**	**19**	**78**
New Haven	178,735	6	7	13	44	1			20	4	12	7	45
Waterbury	102,134	2	1	8	2	12			12		11	7	10
Meriden (city and town)	36,251			2	9	2					4	3	5
Ansonia	19,034		6	4	3	7			3				6
West Haven	17,834		13	1							1		2
Naugatuck	16,350												
Wallingford (town and boro)	12,483	2				6			1		2		
Milford	13,473	1	3	1							1	1	3
Derby	12,500												
Hamden	10.150	2		3		1					2		
Branford (town and boro)	6,954					2					1		2
Seymour	7,911					1							
Towns under 5,000	25,348	2	1	6	1	1			3		2	1	5
FAIRFIELD CO.	**363,740**	**1**	**53**	**36**	**20**	**42**			**23**	**2**	**19**	**10**	**65**
Bridgeport	166,644	1	41	10	16	15			15	1	13	5	18
Stamford (city and town)	46,218		7	6	2	6							2
Norwalk	29,596			1		11			1		1	2	9
Danbury (city and town)	21,931			1		1							
Greenwich (town and boro)	25,207			4	1	8			2		2	1	4
Stratford	16,085												1
Fairfield	14,490			11		1			1		1		1
Shelton	11,134		5	1						1			3
Westport	5,597												
Towns under 5,000	26,838			2	1				4		2	2	27
HARTFORD CO.	**384,608**	**7**	**10**	**36**	**16**	**27**	**1**	**1**	**27**		**53**	**20**	**118**
Hartford	160,199	2	6	11	9	10	1		14		24	8	55
New Britain	67,896	2		7	5	6					9	5	19
Bristol (city and town)	24,621	1	1	10	1	5			3		4		20
Manchester	21,018			3					1		3		3
Enfield	12,834										2	1	2
East Hartford	13,616		1			2		1	3		1	2	1
Southington (town and boro)	9,529		2	2					2		2		1
West Hartford	11,146	1							1		1	1	7
Windsor	6,436								1				1
Glastonbury	6,042										1	2	
Towns under 5,000	46,253	1		3	1	4			2		6	1	9
NEW LONDON CO.	**112,155**	**8**	**4**	**15**	**15**	**10**		**1**	**11**		**2**	**4**	**15**
Norwich (city and town)	30,425	6	3	3		5			6			1	6
New London	29,003		1	7					4			1	7
Stonington (town and boro)	10,819												
Groton (town and boro)	10,764	2		5	2						1	2	2
Towns under 5,000	31,144				13	5		1	1		1		
LITCHFIELD CO.	**79,851**	**3**	**1**	**2**	**1**	**3**			**3**			**1**	**5**
Torrington (town and boro)	24,492								2				
Winchester (inc. Winsted)	9,129					1							
Plymouth	6,349		1	1								1	2
Watertown	7,192												1
Towns under 5,000	36,689	3		1	1	2			1				2
WINDHAM CO.	**55,360**			**3**	**3**	**2**	**1**		**1**			**2**	**53**
Windham (inc. Willimantic)	14,368						1						1
Putnam (city and town)	8,990			1									
Plainfield	8,570												
Killingly (inc. Danielson)	9.051			1	3				1				52
Thompson	5,196			1		1							
Towns under 5,000	9,185					1						2	
MIDDLESEX CO.	**47,152**	**5**	**25**	**2**	**46**	**10**			**3**		**1**	**4**	**31**
Middletown (city and town)	22,649	3	25	1	32	1							9
Middletown State Hospital													16
Towns under 5,000	24,503	2		1	14	9			3		1	4	6
TOLLAND CO.	**27,665**	**3**	**1**	**2**	**1**		**1**		**1**		**2**		
Vernon (inc. Rockville)	8,822												
Stafford (town and boro)	5.457		1	2	1								
Towns under 5,000	13.386	3					1		1		2		

PNEUMONIA SEASON NOW ADVANCING



SOME PRECAUTIONS

Avoid contact with pneumonia patients.

Avoid crowded places during winter months, as close contact with large numbers may spread pneumonia as well as other germs.

Avoid extremes of temperature. The body cannot adjust itself to sudden changes.

Avoid overwork to the point of exhaustion, as fatigue lowers body resistance.

Live a hygienic life which includes properly balanced food, plenty of outdoor exercise and sufficient rest.

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 39 | DECEMBER, 1925 | No. 12

$20,000,000.00

IN HUMAN LIFE

LOST YEARLY DURING 1915—1919

CONNECTICUT

CUT THIS LOSS

BY

FIVE MILLION DOLLARS.

PUBLIC HEALTH WORK PAYS

Index of 1925 Volume on Back Cover

STANLEY H. OSBORN, M. D., C. P. H., Commissioner

ISSUED BY
State Department of Health
HARTFORD

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CONNECTICUT

HEALTH BULLETIN

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STATE DEPARTMENT OF HEALTH

HEALTH DIVIDENDS

By Stanley H. Osborn

Another year has passed and the deaths in Connecticut for 1924 have been carefully collected and checked up to be sure that in so far as is humanly possible the deaths are assigned to the particular disease responsible for the fatality. A year ago, in this bulletin, it was shown that when we compare the economic value of the loss of life as represented by preventable deaths in 1923 with that for the five year period 1915-1919, there was a saving of nearly $2,000,000 in preventable deaths.

The method used in estimating the value of deaths is that used by the National Conservation Commission and in carrying out this accounting those diseases that cause deaths among adults are rated at $5,000 per death. The diseases that cause deaths in the young or groups of children are rated at $1,000 a death. However, when we come to a disease such as whooping cough which is particularly fatal among the very young children, the economic value of those deaths is rated at $500. If these values are used, we find that during the period 1915-1919 the money loss as shown in Table No. 1 for preventable deaths was $20,975,600.

The	$20,975,600	loss has been reduced
to	$19,077,000	a saving of
	$1,898,600	in human life for 1923.
In 1924 this	$20,975,600	loss was reduced
to	$15,707,500	a saving of
	$5,268,100	in human life.

TABLE No. 1

Annual Loss—Preventable Deaths in Connecticut*

Average for Years 1915—1919

Disease	Average Deaths	Per Cent Preventable	Deaths Preventable	Unit Valuation	Monetary Loss
Typhoid fever	98	99	97	$5,000	$475,000
Diphtheria	214	90	193	1,000	193,000
Scarlet fever	33	85	28	1,000	28,000
Measles	102	70	71	500	35,500
Whooping Cough	152	70	106	500	53,000
Poliomyelitis	66	50	33	1,000	33,000
Meningitis	87	70	61	500	30,500
Smallpox	.2	99	.2	3,000	600
Malaria	6	95	6	3,000	18,000
Tuberculosis, pulmonary	1,608	80	1,286	5,000	6,430,000
Tuberculosis, other forms	251	80	201	3,000	603,000
Pneumonia, lobar	1,251	60	751	3,000	2,253,000
Influenza	365a	70	255	4,000	1,020,000
Venereal	853b	90	768	3,000	2,304,000
	5,086	76	3,856		$13,476,600
Diarrhoea, (under 2)	904	70	633	$ 500	$ 316,500
Bronchitis-pneumonia	861	50	430	2,000	860,000
Cancer	1,205	15	180	2,000	360,000
Circulatory	2,857c	30	776	1,500	1,164,000
Nervous	1,923d	35	673	1,500	1,009,500
Puerperal	178	70	125	3,000	375,000
Violence	1,206	50	603	3,000	1,809,000
All others	5,349	10	535	3,000	1,605,000
Totals	19,299	40	7,811		$20,975,600

(a) Excluding Influenza epidemic figures.

(b) Reported cases plus 10 per cent Circulatory and Nervous and 5 per cent all other.

(c) Less 10 per cent deducted and added to Venereal.

(d) Less 5 per cent deducted and added to Venereal.

*From 1919-1920 Annual Report.

Table No. 2 shows this 1923 loss of $19,077,000 and Table No. 3 indicates the remarkable showing for the year 1924 in the saving of human lives and the diseases that decreased to give this remarkable saving.

TABLE No. 2
THE 1923 ACCOUNT

Disease	Annual Average Preventable Loss 1915-1919	1923	Savings Effected Gain	Loss
Typhoid Fever	$ 475,000	$ 190,000	$ 285,000	
Diphtheria	193,000	168,000	25,000	
Scarlet Fever	28,000	45,000		$17,000
Measles	35,500	56,000		20,500
Whooping Cough	53,000	46,000	6,500	
Poliomyelitis	33,000	5,000	28,000	
Meningitis	30,000	16,000	14,500	
Smallpox	600	3,000		2,400
Malaria	18,000	6,000	12,000	
Tuberculosis, pulmonary	6,430,000	4,665,000	1,765,000	
Tuberculosis, other forms	603,000	366,000	237,000	
Pneumonia, Lobar ..	2,253,000	1,509,000	744,000	
Influenza	1,020,000	1,472,000		452,000
Venereal	2,304,000	2,700,000		396,000
Diarrhoea, (Under 2)	136,500	110,000	206,500	
Broncho Pneumonia	860,000	1,038,000		178,000
Cancer	360,000	434,000		74,000
Circulatory	1,164,000	1,050,000	114,000	
Nervous	1,009,500	937,500	72,000	
Puerperal	375,000	384,000		9,000
Violence	1,809,000	1,656,000	153,000	
All Other	1,605,000	2,220,000		615,000
Totals	$20,975,600	$19,077,000	$3,662,500	$1,763,900
Net Savings represented by lessened deaths				$1,898,600

No attempt has been made to compute in money value the dividend in health returned to the state by a decreased number of cases of disease in these tables.

TABLE No. 3
THE 1924 ACCOUNT

Disease	Annual Average Preventable Loss 1915-1919	1924	Savings Effected Gain	Loss
Typhoid fever	$ 475,000	$ 190,000	$ 285,000	
Diphtheria	193,000	151,000	42,000	
Scarlet fever	28,000	51,000		$23,000
Measles	35,500	16,500	19,000	
Whooping Cough	53,000	27,500	25,500	
Poliomyelitis	33,000	12,000	21,000	
Meningitis	30,500	26,000	4,500	
Smallpox	600	15,000		14,400
Malaria	18,000	18,000		
Tuberculosis, Pulmonary	6,430,000	4,205,000	2,225,000	
Tuberculosis, Other forms	603,000	414,000	189,000	
Lobar Pneumonia	2,253,000	1,218,000	1,035,000	
Influenza	1,020,000	808,000	212,000	
Venereal	2,304,000	1,347,000	957,000	
Diarrhoea, (under 2)	316,500	103,000	213,500	
Broncho Pneumonia	860,000	778,000	82,000	
Cancer	360,000	470,000		110,000
Circulatory	1,164,000	1,195,500		31,500
Nervous	1,009,500	978,000	31,500	
Puerperal	375,000	402,000		27,000
Violence	1,809,000	1,680,000	129,000	
All others	1,605,000	1,602,000	3,000	
Totals	$20,975,600	$15,707,500	$5,474,000	$205,900
Net Savings represented by lessened deaths				$5,268,100

Physicians, health officers, boards of health, hospitals, public health associations, tuberculosis associations and nursing associations may well look with pride on the year 1924 for without a doubt it is due to the efforts of those interested along health lines, that the continued decrease in deaths from preventable diseases was possible, particularly in certain diseases, such as tuberculosis and lobar pneumonia, typhoid fever, venereal diseases, diarrhoeal diseases in children under two years of age, and diphtheria.

Without a doubt the decrease in the deaths for diphtheria is partly due to the special precautions taken among persons associated with the patient but the decrease is also partly due to the fact we are now immunizing persons so they never have the disease. In cities and towns throughout Connecticut parents are having their children immunized against diphtheria and this work is already showing results. In diseases where one can protect oneself before any illness occurs as in diphtheria, this disease will be almost as rare as smallpox in the near future. We will then have the outbursts of sentiment such as occur occasionally when protection against smallpox by vaccination is agitated by some misguided friends of children and vaccination decried as a preventive against smallpox. Those in touch with the situation can almost see it coming although it seems as if it could not be true. It indicates, however, that we never realize how deadly a disease may be when it becomes rare. That has been proven true of smallpox. In the next few years as people grow up who have never seen the ravages of this deadly disease diphtheria, as seen by present mothers and fathers, they in turn will begin to think that diphtheria never was a disease to be dreaded and we will have consequently, a group ready to decry the means of preventing it, as today we have the antivaccinationists against smallpox.

Typhoid has practically been eliminated as a disease caused by municipal water supplies; epidemics from milk are becoming more and more rare, and practically the only cause of this disease to be feared now is the typhoid germ carrier—a person who has had typhoid fever and in whom the germs still grow. In this way the disease may be spread year in and year out. Households in which lives a person who has had typhoid fever should consider that person a potential carrier and take every precaution possible to keep typhoid from other individuals in the house until the individual, previously ill, is proven not to be a carrier by laboratory examinations of feces and urine.

When one compares the amount of money saved by the saving of human lives, with the amount of money expended for health work by cities and towns in the state, the returns are great.

This, of course, does not include the saving due to a consequent decrease in sickness. Persons reading this article should bear in mind that only the saving effected by the economic value of prevented **deaths** is shown in the foregoing tables. Such expenses as physicians' bills, hospital bills, worry from sickness, and wages lost during illness are not entered here at all. It is merely the economic value of the loss of human life that is shown in these tables. Other expenses than these may be accounted for such as the loss of money to employers due to absence in industry, for often when the regular employee is absent there is a drop in the efficiency of the particular department that he is employed in.

In only scarlet fever, smallpox, cancer, circulatory diseases and puerperal diseases do the figures appear on the wrong side of the ledger, that is, show a loss when we compare 1924 with the 1915-1919 average. These particular losses if continued for more than a few years, would indicate diseases that special attention should be paid to.

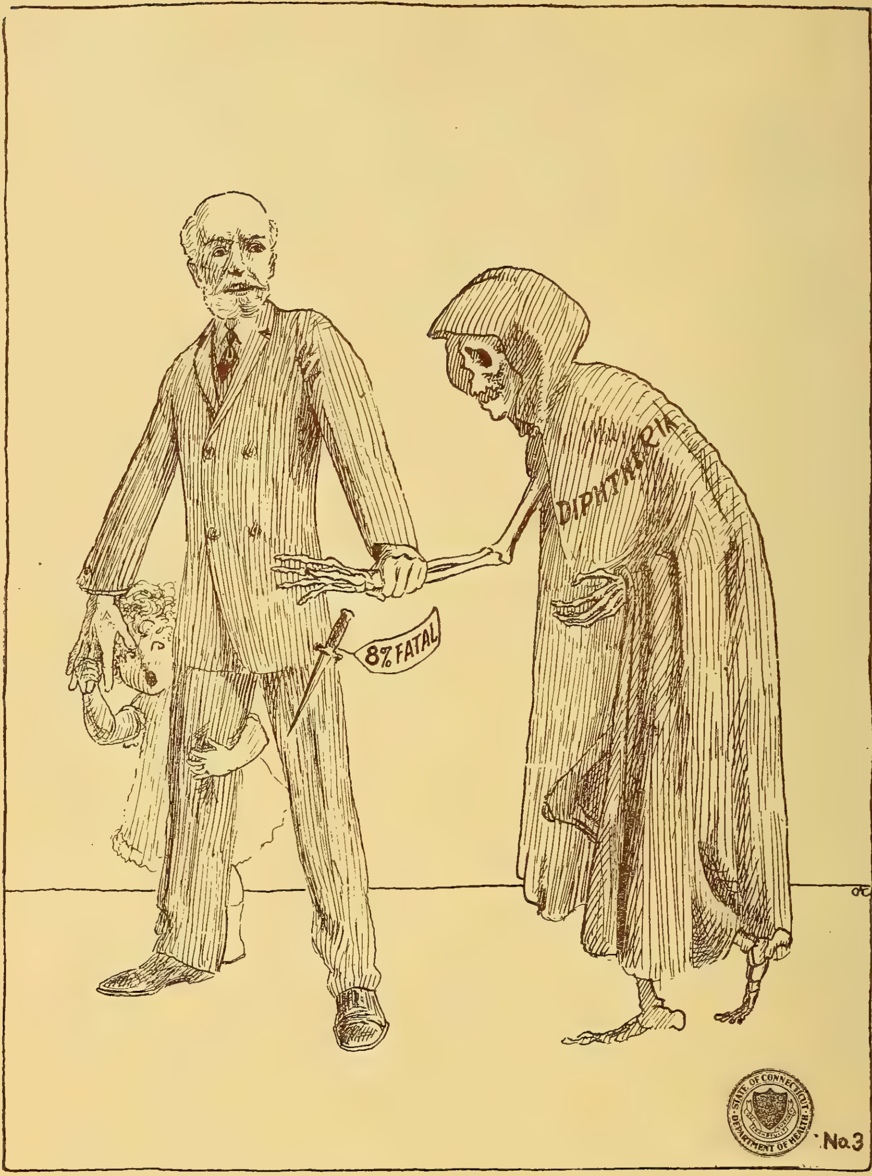
Of these five diseases, there is little excuse in having 100 cases and 5 deaths from smallpox, when this disease is so easily prevented from becoming epidemic by carrying on immunization against it by vaccination.

The loss represented by scarlet fever should by 1925 or 1926 be eliminated by the increasing use of scarlet fever antitoxin, and scarlet fever immunizing material as they become perfected.

In the case of the other three diseases, cancer, puerperal diseases and circulatory diseases, the answer is more difficult and a reduction is harder to attain. These losses, if continued, point out diseases in which posibly we should center our efforts in new work to wipe out this "deficit". One can but imagine what the loss would be without health activities, and death rates of fifty years ago prevailed today.

On the whole the ledger shows wonderful results and we only hope that the present year, 1925, will display Connecticut again as returning good health dividends to the people of cities and towns for the money they have expended in their public health efforts.

NO CHILD NEED HAVE DIPHTHERIA



ANY PHYSICIAN CAN PROTECT YOUR CHILD
FROM DIPHTHERIA

IMMUNITY BY TOXIN-ANTITOXIN LASTS FOR YEARS

MILK CONTROL AND ITS RELATION TO THE PUBLIC HEALTH*

By Millard Knowlton

In addressing the Connecticut State Medical Society 25 years ago, Dr. C. A. Lindsley stated that, in any comprehensive view of the matter, two points stand out above all others in connection with the milk problem. These are: 1. milk is our most important single article of food; 2. milk is the most dangerous food utilized by man.

Milk is an important article of food because it contains in easily digestible form every element needed to nourish the body. Its slight deficiency in certain elements such as iron and vitamin C can be easily made up from other sources. No other single article of food would be missed so much if it were suddenly eliminated from our dietary. Milk is of special value in the feeding of infants and young children, the sick, the convalescent and the aged.

The law of compensation appears to require that all things of great value carry the possibility of great harm. Thus, while milk is our most valuable food, it is at the same time our most dangerous food. More sickness and death have resulted from drinking milk than from the consumption of any other article of food. Milk is dangerous for three reasons:

1. Not only may infected material reach the milk from a diseased cow but the intimate contact of the milk handler with the milk affords an excellent opportunity for infective material to reach the milk from the handler.

2. Among foods milk is the best culture medium for bacteria. Pathogenic microorganisms that gain access to it often multiply so freely as to provide enormous dosage of infective material for the consumer.

3. Infective material once reaching milk may contaminate a very large supply with which the infected milk is mixed. Thus one diseased cow in a herd or one diseased milker among a large number of milk handlers may contaminate the entire supply from a large dairy and so reach many people.

Health Hazards of Milk

The health hazards of milk may be listed in two groups. One group would include food poisoning and the infantile diarrheas. Milk is an excellent culture medium for the various microorganisms belonging to the food poisoning group and thus it may be the vehicle for carrying the bacteria that cause food

*Address delivered before the annual conference of New England Dairy, Food & Drug officials. Hartford. Conn.; June 25. 1925.

poisoning. Milk may also carry the infective agents concerned in infantile diarrheas. This is not a specific agent though such diarrhoeas are often due to dysentery bacilli. Similar conditions may result from other types of organism, and the development of diarrheas in artificially fed infants appears to have some relation to the bacterial count of the milk consumed.

The other group of health hazards associated with milk includes certain communicable diseases. These may be listed as follows:

1. **Tuberculosis.** The bacillus of tuberculosis may enter a milk supply either from a tuberculous cow or from a tuberculous milk handler. The usual source of infection is the cow. Bacilli may reach the milk either directly as a result of tuberculosis of the udder, which is found in from one to two per cent of all tuberculous cows, or they may be introduced along with cow manure, particles of which always find their way into the milk during milking. Bacilli that are coughed up and swallowed are passed with the feces. Certain reseaches now under way, the results of which have not yet been published are said to suggest the possibility of tubercle bacilli being eliminated through the alimentary tract when the lesion is elsewhere than in the lungs. Tubercle bacilli have actually been found in 46 (8.3 per cent) of 551 samples of milk examined in 4 typical American cities. In some instances in the past, tubercle bacilli have been found in a much higher percentage of milk samples. When it is considered that often they may be present in such small numbers as to escape detection and that experimental evidence has shown that they may live for a year or more in cheese, the importance of some method of protecting the milk consumer from tuberculosis may be appreciated. In order to eliminate this hazard all milk should either come from cows proven free from tuberculosis by adequate testing or be pasteurized before consumption.

2. **Typhoid fever and the paratyphoids.** The bacilli of both typhoid fever and the paratyphoids may be carried in milk. They reach the milk from a human handler and not from the cow. Organisms of the typhoid group multiply rapidly in milk and many outbreaks have been reported in which milk was the vehicle for carrying infection. Medical examination of milk handlers will minimize the likelihood of milk becoming infected but the best insurance against infection by an undetected carrier is pasteurization.

3. **Scarlet fever.** The hemolytic streptococcus now regarded as the cause of scarlet fever may be introduced into the milk by a handler who has the disease or is a carrier or from

a cow who has become infected by such handler. As there is no known method of readily identifying this member of the streptococcus group and thus detecting carriers, the best means of preventing scarlet fever outbreaks on milk routes is pasteurization.

4. **Diphtheria.** A milk handler who is a diphtheria carrier or is suffering from a mild attack of the disease may introduce the bacilli directly into the milk or may occasionally infect a cow and thus lead to contamination of the milk. Infection of the cow may be merely a sore spot on the teat which harbors and discharges diphtheria bacilli. Although this organism can be rather readily recognized the safest measure of prevention is pasteurization.

5. **Septic Sore Throat.** The streptococcus which causes septic sore throat may gain access to the milk either from a human carrier, from a case of septic sore throat or from an infected cow. In all cases the original source of infection is probably a human being since the bovine type of streptococcus is not known to cause septic sore throat in man. The disease is caused by the human type of organism. Although much work has been done on the problem, a routine laboratory procedure for determining whether a strain of hemolytic streptococcus is of human or bovine type has not yet come into general use. Such a test might be of some value in dealing with milk in which hemolytic streptococci are found. The most important preventive measure, however, is pasteurization. This is emphasized by the fact that numerous outbreaks of septic sore throat have been traced to raw milk of the highest quality.

6. **Dysentery.** The bacilli of dysentery like those of typhoid fever may be disseminated by milk. That they are not so disseminated more frequently is no doubt due to the fact that dysentery is less prevalent than formerly.

7. **Anthrax.** Anthrax is primarily a disease of animals and only secondarily a disease of man. It is mentioned here because it is possible for the infection to be conveyed by milk, though as a rule it reaches man through other channels.

8. **Foot and mouth disease.** Milk from cows ill with foot and mouth disease conveys the infection to human consumers. The mildness of symptoms in man may cause it to be overlooked. It is likely, however, that not many human cases have occurred in this country owing to the infrequency of foot and mouth disease among cattle.

9. **Malta fever.** Goats harbor the germs of Malta fever but apparently do not suffer from their presence. Bo-

vine and porcine types of the organism have been described. The organism is transmitted to man by the milk or flesh of infected animals. The disease is endemic in the southwest where many goats are raised. Occasionally human cases are reported from other sections of the country.

10. Milksickness. A disease probably unknown in New England but formerly very common in certain parts of the middle west and south is called milksickness because it follows drinking milk from cows afflicted with a disease known as sloes or trembles. With the clearing of the forest and development of the country this disease rarely occurs at the present time and will no doubt eventually disappear.

11. Contagious abortion. Animals not infrequently suffer from a disease known as contagious abortion. Its occurrence in humans has been reported, but not much appears to be known about it. The organism which causes contagious abortion in animals and that which causes Malta fever in man are said to be variations of the same species.

Of the foregoing eleven communicable diseases listed as capable of being carried in milk the first five are of common occurrence and therefore are of special importance. The sixth, dysentery, is of sufficient importance to receive attention in this section of the country while the last five are mentioned chiefly to complete the list. Their occurrence in this section is so infrequent that they might almost be omitted from discussion.

Extent of Hazard

The first comprehensive study of the disease hazard from milk is recorded in Public Health Service Bulletin No. 56. Trask here lists 500 milk-borne outbreaks reported from various parts of the world between 1880 and 1907. These are listed as follows:

Disease	Number of Outbreaks
Typhoid fever	317
Scarlet fever	125
Diphtheria	51
Septic sore throat and pseudo diphtheria	7
Total	500

Milk-borne outbreaks in Boston. According to Rosenau there were 5 milk-borne outbreaks in greater Boston during the 5 years 1907 to 1911 inclusive. These outbreaks involved more than 4,000 cases as follows:

Year	Disease		No. Cases
1907	Diphtheria		72
1907	Scarlet fever		717
1908	Typhoid fever	about	400
1910	Scarlet fever	over	842
1911	Septic sore throat	over	2,065
	Total	over	4,096

Recent outbreaks. During the year 1924 there were reported in the United States 44 milk-borne outbreaks numbering 1944 cases and resulting in 99 deaths. During the past two years there have been 4 milk-borne outbreaks in Connecticut, one of typhoid fever, one of scarlet fever and two of septic sore throat. In Massachusetts the milk-borne outbreaks have averaged nearly 7 per year during the 17 year period 1907 to 1923 inclusive. In the American Journal of Public health for November, 1924, Kelley and Webber give data from which the following table has been compiled:

Milk-borne Outbreaks in Massachusetts—1907 to 1923

Disease	Number of Outbreaks
Typhoid fever	78
Septic sore throat	17
Scarlet fever	15
Diphtheria	7
Total	117

A definite hazard. The foregoing information while fragmentary is sufficient to indicate that milk-borne disease constitutes a definite hazard. In this connection it must be remembered that with better epidemiological work the milk-borne character of outbreaks is more frequently recognized now than formerly, that the increasing practice of pasteurization has undoubtedly greatly lessened the number of outbreaks due to milk during the past few years but that still many outbreaks of this character are probably not definitely traced. It should be remembered also that the hazard of infantile diarrhea due to milk is not directly measurable since this condition may arise from causes other than milk. The evidence presented, however, is sufficient to emphasize the great importance of milk control measures that will effectively prevent milk-borne outbreaks and thus protect the public health.

Milk Control Measures

Measures designed to detect fraud. In spite of the relation of milk to the public health, milk control measures were first directed largely toward detecting fraud. The questions of watered milk, low butter fat and preservatives in the milk loomed large in the eyes of the early milk inspectors. Perhaps after all it was necessary to find a basis in straightforward honest dealing for later control measures designed to protect the public health.

Sanitary supervision. Another interesting feature in the development of milk control measures is the mixture of the esthetic with the health reasons for control. Perhaps this too is a natural and necessary developmental stage. Certainly it is analagous to the development of general public health procedures which at first gave great attention to the environment; but as knowledge became more definite and a better perspective was gained in our vision of public health problems the emphasis has shifted to the individual as the source of infection. That the sanitary supervision of milk and dairy premises has some public health value all will agree. It will no doubt be conceded also that the methods employed in a milk plant are in general more important than the material equipment insofar as the production of a clean and safe milk is concerned. A clean milk supply is desirable for both esthetic and public health reasons and the education of milk producers and handlers resulting from sanitary supervision of equipment and methods is a necessary basis for more advanced measures of control.

Medical examination of food handlers. Recognizing the fact that human beings are the source of many disease germs conveyed by milk, control measures have sometimes included the medical examination of all milk handlers for the purpose of discovering the presence of disease or disease germs that might be disseminated through milk. Such examination where conducted should include the examination of throat cultures for diphtheria bacilli and the examination of feces and urine for typhoid or partyphoid bacilli. As these organisms when present are often missed by a single examination, it may be desirable also to make a Widal test of the blood. The Widal is probably positive in a majority of typhoid carriers. Surprising results may be obtained through the application of these methods. For example, the examination of 1,076 healthy persons handling milk in Alabama recently showed that 55 or 5.1 per cent of them are either typhoid or paratyphoid carriers. In one community where the typhoid rate has been excessive, 31 carriers were found among 300 milk handlers examined, a rate of 10.3 per cent. This leaves

24 carriers for the other 776 persons examined, a rate of 3.1 per cent. As typhoid is more prevalent in the South than in the North, this finding probably shows a much greater percentage of carriers than would be revealed by a similar study in New England.

Veterinary inspection of cows. In view of the fact that cows may become infected with and convey to the milk the microorganisms causing tuberculosis, septic sore throat, scarlet fever and diphtheria, the veterinary inspection of cows has come into use as a milk control measure. The phase of veterinary inspection which has been brought most prominently to public attention consists in applying the tuberculin test to detect the presence of tuberculosis. It should be remembered that this test applies to tuberculosis only and does not furnish information that is helpful in safeguarding against other diseases.

Limitations of control measures. All of the control measures so far enumerated, even when conbined, fall just a little short of the complete safeguard against danger of disease dissemination by milk that is desired. For example, efforts to detect fraud have little bearing on public health, even though added water or low butter fat may render the preparation of a balanced ration for an infant slightly more difficult, and preservatives in the milk may not wholly agree with a feeble digestive apparatus. Sanitary supervision of dairy premises falls short of the desired results insofar as it does not take into consideration the fact that the source of infection disseminated by milk is always either a diseased milk handler or a diseased cow. Medical examination of food handlers can not be conducted so frequently as to prevent a handler from becoming infected and contaminating the milk between examinations. Besides, the most careful physical examination and painstaking laboratory tests may occasionally fail to detect carriers of disease germs who are not ill. The same may be said of veterinary examinations of cows. Obviously then, none of these measures will completely protect the public health and furnish the greatest, most dependable safeguard against the spread of disease through milk. Something else is needed.

Certified milk. From the foregoing it appears that certified milk, even when produced under the best conditions, still has opportunities to become contaminated with disease germs. In fact a number of outbreaks have resulted from the dissemination of such germs by milk of certified grade. The best thing about certified milk from a public health point of view is that it forms so small a proportion of a community's supply that the hazard is limited to a small fraction of the population.

Pasteurization. Because of the limitations necessarily inherent in all other milk control measures, public health officials are coming to rely more and more upon pasteurization as a means of preventing the dissemination of disease through milk. Causative agents of all the milk-borne diseases except anthrax are readily killed by proper pasteurization. Milk-borne anthrax is so rare as to be a negligible factor. Practical experience together with experimental tests have demonstrated that a temperature requirement of not less than 142°F. for 30 minutes provides an ample margin of safety to allow for such variations in temperature as may occur in commercial plants under adequate supervision and still give effective pasteurization. As experiences with pasteurization increase, its value as a public health measure is more and more appreciated so that it is now regarded as the one measure providing the greatest safety for the milk consumer. Any community where nearly all of the milk is pasteurized is entitled to enjoy a sense of security against the danger of milk-borne outbreaks.

Evaluation of control measures. The attitude of health officials toward milk control measures is reflected to some extent in the various attempts to evaluate health work. Some years ago Chapin in his evaluation schedule of 1,000 points for all public health work gave milk control a value of 20. Of this 20, he assigned 3 to adulteration and 17 to sanitation. The appraisal form for scoring city health work recently issued by the the American Public Health Association assigns 60 points to milk supply control of which 25 are concerned directly with the percentage of milk pasteurized and 13 additional points relate to the bacterial count of pasteurized milk before and after pasteurization. The balance of the 60 points includes 5 for per cent of certified milk, 5 for number of milk samples analyzed and 12 for requirements of bottling ordinance. If these two evaluation schedules can be taken to indicate roughly the contemporary views of health officials concerning milk control measures, they indicate that the value of pasteurization is appreciated far more than formerly.

Results of Milk Control Measures

The difficulty of measuring results of this kind is such that no very accurate method of measuring can be applied but certain suggestive points may be enumerated. In common with other sections of the country, Connecticut has enjoyed a great reduction in infant deaths during the past few years. This lessened number of deaths is to a large extent due to fewer deaths from diarrhea and enteritis under 2 years of age, as shown in the following table:

Deaths from Diarrhoea and Enteritis under 2 yrs.
In Connecticut, 1920—1924

Year	Deaths
1920	719
1921	473
1922	416
1923	314
1924	294

Just the part played by an improved milk supply in this marked reduction in infant deaths can not be determined. Perhaps the greatest factor in the matter is the dissemination of knowledge concerning infant care, but undoubtedly the improvement in milk supply has played a role though such role can not be measured.

Less milk-borne disease. A notable attempt to measure the effect of milk control has been made in Massachusetts and the results are reported by Kelley and Webber in the article previously mentioned. These authors show that there has been a marked reduction in deaths from other forms of tuberculosis during the past 20 years. It is well known that forms of tuberculosis other than pulmonary are frequently associated with the bovine type of tubercle bacillus. The following table gives significant data on this point:

Average Death Rate from other Forms of Tuberculosis in Massachusetts for 5 year periods, 1905—1923

Years	Death Rate per hundred thousand
1905-9	57.7
1910-14	29.5
1915-19	20.5
1920-23	15.

In connection with the foregoing table it is to be noted that pasteurization began to be used on a considerable scale in Massachusetts about 1910. It is not possible, however, to credit all of the marked decline in death rate from other forms of tuberculosis to pasteurization of milk supplies since, coincident with the development of pasteurization, there has also been activity along the line of tuberculin testing of cattle to eliminate those found infected.

Fewer cases due to milk. A more important measure for gauging the value of milk control procedures and especially of pasteurization in protecting the public health is furnished by data showing the drop in percentage of cases due to milk. Kelley and Webber give the following figures for Massachusetts:

Per cent of Reported Cases Due to Milk in Massachusetts, 1905 to 1923

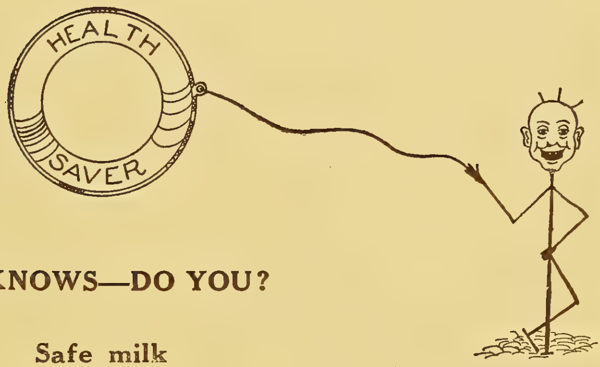
Disease..	1905-15	1915-18	1919-23
Typhoid	9.43	7.85	7.23
Septic sore throat	......	61.88	14.23
Scarlet fever	3.89	.55	.11
Diphtheria	0.18	.08	.018
Total	4.64	2.29	0.505

The marked reduction in percentage of reported cases due to milk as shown by the foregoing table is most gratifying to all persons interested in milk control As further evidence that pasteurization is an important factor in this reduction it may be noted that milk-borne outbreaks at present usually occur on small milk supplies that are not pasteurized. The large supplies are nearly all pasteurized so that the only supplies left to disseminate disease are the small ones. As these supplies are less likely to become infected and when infected do not convey infection to so many people as large supplies, the percentage of cases attributed to milk will necessarily greatly decline as the large supplies adopt pasteurization.

Large versus small milk plant. The greater hazard of the large milk plant may be demonstrated by a simple mathematical calculation. For example, contrast a dairy of 10 cows handled by one man and producing 100 quarts of milk per day with another of 50 cows in which the milk is handled by 5 men and the amount produced reaches 500 quarts per day. It is obvious that the second plant will on the average supply 5 times as many customers as the first. Thus if the milk supply becomes contaminated there would be about 5 times the number of cases as in the first instance. Nor is that all, for the second plant handled by 5 men instead of one would afford 5 chances for having the milk become infected by an infected handler as against one chance in the first instance. Thus with 5 chances to one for having the supply become infected by the handler, to say nothing of the greater chances of infection by the additional cows, and with 5 times the customers to drink the milk, if the number of cases could be averaged over a long period or for a large number of plants the large supply would be expected to produce about 25 times the cases produced by the small supply. This illustrates very well the fact that the supervision of large supplies is relatively more important than the supervision of small ones. Of course the ideal system is adequate control of all milk supplies both large and small.

Summary

To sum up then, milk control measures have a very direct relation to the public health. The reason for such control lies in the fact that milk is such an excellent vehicle for conveying the causative agents of disease. The importance of control measures is much greater when milk for large communities is handled in large supplies since one infected handler may contaminate the entire supply. While other measures of control are not to be neglected pasteurization stands out as the one measure of greatest importance in protecting the public health.



HE KNOWS—DO YOU?

Safe milk

is available to the people of

Connecticut

Have you done your bit for your family by asking your health officer where the milk used in your household comes from and if it is produced and handled in a cleanly manner?

NEWS FROM THE FIELD

Among the Health Officers:

Mr. George Gibbs, R. F. D. No. 2 Torrington, has been appointed health officer of Harwinton, replacing Raymond G. Bentley.

Mrs. Billings T. Avery, R. F. D. No. 6, Norwich, has been appointed health officer of Ledyard, taking the place of Charles A. Gray.

Dr. F T. Fitch of East Hampton has been appointed health officer of East Hampton replacing Dr. George E. Lawson of Middle Haddam.

B. B. Robbins, M. D., has been appointed health officer of Bristol replacing Dr. Woisard.

Suggested Sanitary Field Trip:

Many inquiries are received as to sewage and refuse disposal plants which would be of interest to visit. Following is a suggested itinerary which takes in a number of very interesting plants within a small area. Such a trip would be well worth while for municipal officials and health workers.

City or Town	Disposal Works
Stratford	Sewage Plant: Imhoff Tanks and Chlorination
Bridgeport	Sewage Plant: Riensch-Wurl Screens Garbage Reduction Plant
Stamford	Sewage Plant: Imhoff Tanks and Chlorination Refuse Incinerator
Greenwich	Sewage Plant: Imhoff Tanks
Port Chester, N. Y.	Sewage Plant: Imhoff Tanks Refuse Incinerator
White Plains, N. Y.	Refuse Incinerator
Scarsdale, N. Y.	Beccari Garbage Disposal Plant
Mamaroneck, N. Y.	Sewage Plant: Imhoff Tanks, Sprinkling Filters, Secondary Settling Tank, Chlorination Sewage Plant: Activated Sludge Disposal
New Rochelle, N. Y.	Sewage Plant: Riensch-Wurl Screens and Digestion Tanks

Public Health Nursing:

The Public Health and Visiting Nurse Association of Meriden receives its budget from many sources. A splendid addition to this budget was made recently by a benefit performance given under the auspices of the Elks in that town, at which the sum of $2,000 was raised.

The Community Chests of Hartford and New Haven went over the top. This makes it possible for these Public Health Nursing Associations to continue their progressive work already started.

The towns of Bethel and Moodus are the latest ones to realize that they need the services of a public health nurse. Meetings have been held in each town and it is hoped that soon their desires will have become a reality and that each will have a public health nurse who can do not only school nursing but community nursing as well. The towns must raise their money the same as other towns; namely, by membership subscriptions, donations from private individuals, sale of tuberculosis seals, payment for nursing care from insurance companies and help from the Red Cross and possibly from the town.

Health Education:

A short course in nutrition has just been given at Bridgeport to the public health nurses of Bridgeport, Stamford, Stratford, and Fairfield.

A series of lectures in public health is now in progress at the Danbury Hospital. This course is given by the members of the Staff of the State Department of Health to the nurses in training and other local workers who are interested. Through such discussions the nurses who graduate are equipped with a bird's-eye view of the public health problems in the field, many of which they will later have to meet.

Child Hygiene:

At a Putnam Well Child conference in November a baby two and a half months old was examined The baby weighed a pound less than at birth according to birth weight given by mother, was emaciated to skeleton, and had contractures of muscles of the four extremities. The mother was not satisfied with the physician's treatment, but was advised to consult physician again and ask for consultation or hospital treatment. The physician was called that same night and again the next day, and when the mother expressed a wish for different treatment, the physician was glad to send the infant to the Memorial Hospital in Worcester. Here under close supervision and care the baby gained 6 ounces the first two weeks.

Thus children in need of care are discovered at these conferences and put in touch with those who can give proper care.

Laboratories

SUMMARY OF BUREAU ACTIVITIES FOR November, 1925

DIAGNOSTIC

	+	—	?	Total	
Typhoid	4	84	....	88	
Paratyphoid A	....	84	....	88	
Paratyphoid B	1	87	....	88	
Diphtheria	505	2547	....	3052	
Diphtheria Virulence	9	10	....	19	
Vincent's Angina	4	574	....	578	
Haemolytic Streptococci	13	566	....	579	
Tuberculosis	21	90	....	111	
Syphilis	251	1282	181	1714	
Gonorrhoea	26	91	....	117	
Pneumonia Typings	1	1	....	2	
Malaria	1	1	....	2	
Rabies	3	....	....	3	
Special	4	7	1	12	6453

CHEMICAL AND BACTERIOLOGICAL

Milk samples	234	
Water samples	215	
Oyster samples	48	
Sewage samples	47	
Clinical thermometer examinations	26	570
		7023

Laboratory Examinations In Food Poisoning

From a study of the varieties of laboratory examinations now being made in other state health department laboratories, it is noted that these laboratories have been called upon to make relatively few bacteriological examinations in connection with cases of suspected food poisoning. Recent scientific investigations have shown that nearly all so-called "ptomaine" poisoning is not caused by chemical deterioration of food but by the activity of bacteria, either with or without the production of toxins. The laboratories will be glad to give assistance to health officers and physicians whenever illness appears to be caused by food spoilage. In addition to bacteriological examination of suspected food materials valuable information can sometimes be secured by tests for the suspected causative organism in samples of blood and feces. Keep suspected food materials on ice and notify this Bureau, because an epidemiological investigation is usually desirable before laboratory examinations are made.

Vital Statistics

MONTH OF OCTOBER, 1925

Births

During the month 2,317 births were recorded, again a decrease below the number reported for the corresponding month in 1924, when 2,526 were registered. This is a decrease of 209. The mean number of births over the period 1920-1925 is 2,544±60 and it therefore appears that the month, for 1925, is 227 below the mean. In this article for September there was a table showing the monthly experience over a period of six years. Similar figures for October are as follows:

Reported Births	Mean for 6 years	Dispersion	Chance Dispersion	Trend	Lexian Ratio	Lexian Ratio ex Trend
2,317	2,544±60	143±41	±50	— 79±3.2	2.8	0.96

Here again it will be noted that there is a decidedly significant negative trend and also that the series is slightly subnormal when the trend is excluded, as is indicted by the Lexian ratio, ex trend, of 0.96.

For some months in the past very few of the towns over 5,000 in population have in any month reported an increased number of births over the corresponding month for 1924. In October there were 5 towns which reported increases of 10 or over. The following are the towns and the figures immediately following are the values of the increase: Bristol, 14; East Hartford, 10; Hartford, 74; Meriden, 18; New Britain, 10. The most marked increase, of course, is the increase of 74 for Hartford. For this city, increase or decrease of about 27 would not have been statistically significant on the basis of figures reported for 1924 and 1925. But an increase of nearly 3 times 27 has been noted, which is significant.

In 1925, 97 stillbirths were reported, making the total number of births 2,414. This is at the rate of 40.1 stillbirths per 1,000 **total** births, with a chance dispersion of ±4.0. One year ago there were 82 stillbirths, giving for the total number of births 2,608. This gives a stillbirth rate of 31.7±3.5 per 1,000 total births. The rate of stillbirths has therefore increased 8.4±5.0 points, showing nothing of statistical significance.

Deaths

Records of 1,427 deaths were received, an increase of 10 over 1924 when 1,417 were reported. The mean number of deaths over the years 1920-1925 is 1,339±26. Last month it was pointed out that there was no significant trend in the number of deaths for September. For October, there is an up trend of +25±3.0, which indicates very strong significance. Changing over to rates, however, it will be noted that there is little or no change from year to year. The increase in the number of deaths does not affect the rate, being offset by the increase in population.

A table is given to compare 1925 and 1924 for certain causes of deaths.

Cause of Death	1925	1924	Increase	Decrease
Diseases of the Heart	224±15	215±15	9±21	....
Epidemic Encephalitis	....	3± 2	....	3± 2
Pneumonia Undefined	1± 1	5± 2	....	4± 2
Typhoid Fever	4± 2	4± 2	....	....
Measles	1± 1	....	1± 1	....
Scarlet Fever..........................	1± 1	5± 2	....	4± 2
Whooping Cough	10± 3	7± 3	3± 4	....
Diphtheria	11± 3	16± 4	....	5± 5
Influenza	13± 4	10± 3	3± 5	....
Tuberculosis Pulmonary	58± 8	86± 9	....	28±12
Tuberculosis Other Forms	11± 3	19± 4	....	8± 5
Cancer	139±12	144±12	....	5±17
Cerebrospinal Meningitis ..	1± 1	2± 1	....	1± 1
Poliomyelitis	1± 1	5± 2	....	4± 2
Lobar Pneumonia	64± 8	49± 7	15±11	....
Broncho Pneumonia	60± 8	54± 7	6±11	....
Diarrhoea & Enteritis (Under 2)	24± 5	35± 6	....	11± 8
Puerperal Diseases	18± 4	16± 4	2± 6	....
Accident	81± 9	91±10	....	10±13
Suicide	14± 4	15± 4	....	1± 6
Homicide	2± 1	2± 1	....	....
Other Causes	689±26	634±25	55±37	....
Totals	1,427±38	1,417±38	94	84

Running over the tabulation of increases and decreases the only fact of significance is the decrease in tuberculosis. This decrease of 28 is more than twice its chance dispersion of 12 and is therefore worthy of note. Pneumonia undefined, scarlet fever and poliomyelitis also indicate decreases of twice their standard deviations, but the figures are small in themselves and it is doubtful if there is any significance. Of course, the increase of 10 in the total deaths is of no significance whatsoever. There were 30 deaths due to automobile accidents as compared with 27 for 1924. The increase of 3 is not alarming from a **purely statistical** point of view. But nevertheless if this increase keeps on from month to month and from year to year it must inevitably lead to great statistical significance—

the change is always **increase.** Statistical analysis is based on the supposition that changes may be increase **or** decrease. If there is not an equal chance for decrease, as there apparently is **not** in automobile accidents, then we have, indeed, something of very decided significance.

At the end of this article is a table showing the experience for the past six years. And it is of possible significance to note the decrease in the number of deaths due to communicable diseases. The per cent of such deaths to the total deaths has been steadily if not uniformly decreasing. Infant mortality rose to a rate of 76.0 per 1,000 living births.

Marriages

During the month 1,432 marriages were solemnized which is an increase of 17 over the 1,415 reported in 1924 and 37 below the six year average, 1920-1925, of 1,469. The disperson is ± 54.3 with a chance dispersion of ± 38.3 giving a Lexian ratio of 1.4 which is not a great departure from normal. If the downward trend of 20.0 ± 3 be excluded the Lexian ratio becomes 1.1 practically a normal series.

For Six Years—October, 1925

CONNECTICUT	1920	1921	1922	1923	1924	1925
BIRTHS *Birth Rate*	2758 23.8	2666 22.6	2554 21.2	2444 19.9	2526 20.2	2317 18.2
MARRIAGES *Marriage Rate*	1569 13.5	1440 12.2	1445 12.0	1514 12.3	1415 11.3	1432 11.2
DEATHS *Death Rate*	1308 11.3	1300 11.0	1323 11.0	1262 10.3	1417 11.3	1427 11.2
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	159 12.2	144 11.1	143 10.8	123 9.7	135 9.5	100 7.0
DEATHS UNDER 1 YEAR *Rate Per 1,000 Births*	234 82.1	212 74.6	184 70.6	170 66.5	165 65.5	188 76.0

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

Births, Marriages and Deaths

OCTOBER, 1925 Statistics	Population Est. as of July 1, 1925 Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Stillbirths	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,529,688	2317	97	1432	1427	11.2	0.5	76.0	188	48	506
Ansonia	19,034	18	....	12	16	10.1	1.3	43.2	1	....	3
Branford	6,954	12	....	5	9	15.5	1.7	102.6	1	....	5
Bridgeport	166,644	246	13	124	104	7.5	0.2	51.3	14	5	31
Bristol	24,621	58	1	19	23	11.2	0.5	139.1	7	3	5
Danbury	21,931	45	1	23	26	14.2	1.1	69.5	3	....	9
Derby	12,500	27	2	10	14	13.4	....	54.4	2	3	3
East Hartford	13,616	19	2	10	5	4.4	....	....	....	....	3
Enfield	12,834	18	2	15	8	7.5	0.9	40.5	1	....	4
Fairfield	14,490	8	....	7	7	5.8	....	109.6	2	1	....
Glastonbury	6,042	2	....	7	5	9.9	....	....	....	....	4
Greenwich	25,207	43	3	58	24	11.4	0.5	100.8	4	....	10
Groton	10,764	12	....	6	6	16.0	....	....	....	....	5
Hamden	10,150	12	1	7	8	9.5	....	61.2	1	....	3
Hartford	160,199	395	18	202	173	13.0	1.1	77.1	26	4	49
Killingly	9,051	10	....	9	9	11.9	....	61.2	1	....	4
Manchester	21.018	29	1	17	14	8.0	....	26.3	1	1	3
Meriden	36,251	63	4	40	40	13.2	1.3	229.2	5	....	15
Middletown	22,649	44	2	17	47	24.9	0.5	79.6	4	1	19
Milford	13,473	....	....	....	....	....	....	....	....	....	....
Naugatuck	16,350	6	....	10	12	8.8	....	....	....	....	6
New Britain	67,896	127	6	61	50	8.8	1.8	87.5	12	1	14
New Haven	178,735	288	7	179	186	12.5	0.9	50.7	17	9	70
New London	29,003	57	4	28	44	18.2	1.2	154.6	10	....	14
Norwalk	29,596	58	2	36	28	11.4	....	....	....	2	12
Norwich	30,425	58	3	35	46	18.1	0.4	145.3	10	3	11
Plainfield	8.570	11	1	6	6	20.0	....	....	....	1	1
Plymouth	6,349	4	....	8	5	9.5	....	....	....	....	3
Putnam	8,990	17	1	10	11	14.7	....	52.4	1	....	5
Seymour	7,911	8	....	4	8	24.7	1.5	187.5	2	2	3
Shelton	11,134	11	....	7	6	6.5	1.1	....	....	....	2
Southington	9,529	8	....	10	6	7.6	....	64.8	1	....	3
Stafford	5,457	6	....	11	7	15.3	....	....	....	....	4
Stamford	46,218	88	2	46	53	13.8	0.5	101.9	10	3	11
Stonington	10,819	7	1	9	5	14.8	....	....	....	....	3
Stratford	16,085	11	....	9	12	8.9	1.5	....	....	....	7
Thompson	5,196	10	....	9	3	6.9	2.3	95.2	1	....	1
Torrington	24,492	31	3	23	15	11.5	0.5	67.7	3	....	5
Vernon	8,822	10	1	11	12	16.3	....	96.0	1	1	8
Wallingford	12,483	6	....	3	14	13.5	....	64.5	1	....	9
Waterbury	102,134	160	7	69	99	11.6	0.8	108.7	22	1	24
Watertown	7,192	6	....	3	1	1.6	....	....	....	....	....
West Hartford	11,146	14	1	21	6	6.5	....	62.8	1	....	4
West Haven	17,834	30	....	17	18	12.1	1.3	....	....	1	5
Westport	5,597	5	....	5	4	8.6	....	160.0	1	....	2
Winchester	9,129	12	....	11	10	13.1	....	53.3	1	1	3
Windham	14,368	....	....	....	12	10.0	0.8	104.0	3	....	3
Windsor	6,436	3	....	4	4	7.5	....	....	....	....	1
Towns under 5,000	209,346	204	8	199	206	12.3	0.2	71.4	18	5	97

for the month of October, 1925

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
224	......	1	4	1	1	10	11	13	58	11	139	1	1	64	60	24	18	81	14	2	491	252
2	......	......	......	......	......	......	2	1	1	1	1	......	......	......	1	......	......	......	......	......	1	......
2	......	......	......	......	......	......	......	......	1	......	1	......	......	1	1	......	......	......	......	......	......	......
16	......	......	......	......	......	1	1	2	2	1	12	......	......	6	4	2	......	5	......	......	41	18
......	......	......	......	......	......	......	......	......	1	......	2	......	......	1	2	1	1	1	......	......	5	4
2	......	......	......	......	......	......	......	......	2	......	3	......	......	1	1	......	1	2	......	......	13	6
6	......	......	......	......	......	1	......	......	......	......	......	......	......	......	1	......	......	1	......	......	5	4
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	1
......	......	......	......	......	......	......	......	......	1	......	1	......	......	......	......	1	......	......	......	......	1	......
1	......	......	......	......	......	......	......	......	......	......	1	......	......	1	2	......	......	......	......	......	......	1
1	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	1	1	......	4	......	......	1	......	1	......	1	......	......	8	3
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	1	1
1	......	......	......	......	......	......	......	......	......	......	1	......	......	1	......	......	......	1	......	......	1	1
30	......	......	......	......	......	......	......	1	7	2	16	1	......	13	5	2	5	9	1	......	98	39
3	......	......	......	......	......	1	......	......	......	......	2	......	......	......	......	......	......	......	......	......	......	......
1	......	......	1	......	......	......	......	......	......	......	3	......	......	1	......	......	......	1	1	......	5	3
4	......	......	......	......	......	......	......	2	3	......	2	......	......	3	2	......	......	2	1	......	11	2
12	......	......	......	......	......	1	1	......	2	1	1	......	......	2	2	......	......	......	......	......	29	23
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
3	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	1	......	......	......	......
8	......	......	......	......	......	1	......	......	1	......	2	......	......	3	4	1	......	6	1	......	16	4
33	......	......	......	......	......	2	......	1	2	2	27	......	......	5	10	3	3	18	4	......	89	34
9	......	......	1	......	......	......	......	......	3	......	5	......	......	2	......	1	1	2	......	......	8	9
5	......	......	......	......	......	......	1	......	......	......	4	......	......	1	1	......	......	1	......	......	2	......
10	......	......	......	......	......	......	1	1	5	......	4	......	......	3	1	......	......	1	......	2	12	8
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1
3	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	......	......	......	6	4
......	......	......	......	......	......	......	1	......	1	......	......	......	......	......	......	1	......	1	......	......	......	1
2	......	......	......	......	......	......	......	......	3	......	......	......	......	......	1	......	......	......	......	......	4	3
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	1	......	......	......	1
1	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	1	......	......	2	1
1	......	......	......	......	......	2	2	2	2	1	1	......	......	1	2	2	2	......	......	......	19	3
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......
2	......	......	......	......	......	......	......	......	1	......	2	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	4	......	......	2	......	1	1	1	......	......	3	......
2	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	1	......	......	1	......
5	......	......	......	......	......	......	1	......	......	......	3	......	......	......	2	......	......	......	......	......	4	......
9	......	......	1	......	1	......	......	......	4	1	7	......	......	9	2	3	1	6	......	......	46	17
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	1
1	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	2	2
4	......	......	......	1	......	......	......	......	5	......	2	......	......	1	1	......	......	1	1	......	4	4
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	......	1	1	......	......	......	......	......	......	......	......	......	3	1
......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	1	1	2	......	......	5	3
4	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
33	......	......	1	......	......	1	1	1	9	1	20	......	1	6	12	1	1	14	4	......	46	49

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF NOVEMBER, 1925

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of November, 1925, with the corresponding month for the years 1920, 1921, 1922, 1923 and 1924.

DISEASE	Average 1920-1924 for November	Mean 1920-1924 for November	1920	1921	1922	1923	1924	1925
Cerebrospinal Meningitis ..	6	6	6	5	7	9	3	1
Diphtheria	369	384	574	384	401	264	221	173
Encephalitis Epidemic	2	2	1	......	1	2	4	4
Measles	406	395	390	395	653	571	22	261
Poliomyelitis	6	5	10	5	5	9	3	3
Scarlet fever	385	375	476	301	375	343	432	185
Smallpox	2	4	......	......	3	2	4	......
Typhoid fever	25	22	45	28	18	22	13	17
Tuberculosis Pulmonary ..	131	119	166	106	149	119	115	103
Whooping Cough	238	246	343	114	246	186	302	235

A comparison of the morbidity on these diseases for the two preceding months, September and October with the November record is as follows:

	September	October	November
Cerebrospinal Meningitis	3	3	1
Diphtheria	67	126	173
Encephalitis Epidemic	2	1	4
Measles	31	125	261
Poliomyelitis	12	3	3
Scarlet Fever	70	134	185
Smallpox	......	......	......
Typhoid Fever	35	42	17
Tuberculosis (pulmonary)	110	108	103
Whooping Cough	256	161	235

Cases of Other Reportable Diseases

Anthrax	1	Influenza	29
Chickenpox	257	Mumps	33
Conjunctivitis Infectious	3	Septic Sore Throat	9
Ophthalmia Neonatorum	1	Tetanus	2
Dysentery (Amoebic)	2	Gonorrhoea	156
Dysentery (Bacillary)	1	Syphilis	145
Encephalitis Epidemic	4	Chancroid	1
Favus	1		
German Measles	3	Total	648

Cases of Occupational Diseases

Acute Dermatitis	2	Mercurial Stomatitis	1
Cement Dermatitis	1	Occupational Dermatitis	1
Fulminate Rash	1		
		Total	6

Cases of Certain Reportable Diseases

NOVEMBER, 1925	Population Est. as of July 1, 1925	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Broncho-Pneumonia	Other Com. Diseases
State Total	1,529,688	17	261	185	235	173	1	3	103	9	159	92	648
NEW HAVEN CO.	**459,157**	**6**	**93**	**48**	**48**	**44**			**51**	**2**	**45**	**25**	**167**
New Haven	178,735	1	13	12	29	2			33	1	10	11	120
Waterbury	102,134	5	6	13	4	14			10	1	11	6	12
Meriden (city and town)	36,251		1	4	5				1		10	4	6
Ansonia	19,034		57	3	3	9			2		1		11
West Haven	17,834		7	2					1		5	2	1
Naugatuck	16,350												
Wallingford (town and boro)	12,483					4						1	1
Milford	13,473		2	2	1	1					2		4
Derby	12,500		7								1	1	
Hamden	10,150			1					2		2		4
Branford (town and boro)	6,954					10			1		1		1
Seymour	7,911					1							
Towns under 5,000	25,348			11	6	3			1		2		7
FAIRFIELD CO.	**363,740**	**4**	**103**	**68**	**29**	**56**			**16**	**1**	**47**	**19**	**141**
Bridgeport	166,644	1	67	26	11	25			10	1	24	8	45
Stamford (city and town)	46,218	1	7	12	2	10					7	1	8
Norwalk	29,256			4		6						1	1
Danbury (city and town)	21,931	1		1		2			1		4	1	7
Greenwich (town and boro)	25,207			9	1	2			1		6	5	14
Stratford	16,085		1	2		3			1		2	1	15
Fairfield	14,490			4		1						2	3
Shelton	11,134		22		5	1			1				1
Westport	5,597		2	6					1				2
Towns under 5,000	26,838	1	4	4	10	6			1		4		45
HARTFORD CO.	**384,608**	**2**	**54**	**50**	**46**	**52**	**1**	**2**	**23**	**5**	**48**	**32**	**268**
Hartford	160,199	1	35	17	16	15		1	13	4	17	11	171
New Britain	67,896		3	7	11	7			5		11	8	44
Bristol (city and town)	24,621	1	1	6	2	4			1	1	1	1	17
Manchester	21,018			12		1					9	1	4
Enfield	12,834					2					1		4
East Hartford	13,616		10	1		4			1		2	2	1
Southington(town and boro)	9,529		1	1		2							4
West Hartford	11,146				2	1						2	1
Windsor	6,436		3	1		1					1		2
Glastonbury	6,042				7								3
Towns under 5,000	46,253		1	5	8	15	1	1	3		6	7	17
NEW LONDON CO.	**112,155**	**2**	**6**	**10**	**18**	**13**			**7**		**2**	**6**	**41**
Norwich (city and town)	30,425		4	1		7			4				1
New London	29,003		2	7	4	1			1			3	24
Stonington (town and boro)	10,819					3							4
Groton (town and boro)	10,764			2		1			2			2	4
Towns under 5,000	31,144	2			14	1					2	1	8
LITCHFIELD CO.	**79,851**	**1**	**1**		**4**	**2**			**2**		**1**	**1**	**4**
Torrington (town and boro)	24,492												1
Winchester (inc. Winsted)	9,129					1							
Plymouth	6,349										1		1
Watertown	7,192	1											
Towns under 5,000	32,689		1		4	1			2			1	2
WINDHAM CO.	**55,360**		**1**	**5**	**2**	**1**			**3**	**1**	**10**	**4**	**13**
Windham (inc. Willimantic)	14,368		1	2							5	2	2
Putnam (city and town)	8,990								1		3	1	1
Plainfield	8,570												
Killingly (inc. Danielson)	9,051			3									2
Thompson	5,196					1							
Towns under 5,000	9,185				2				2	1	2	1	8
MIDDLESEX CO.	**47,152**	**2**	**2**	**4**	**88**	**5**			**1**		**4**	**2**	**8**
Middletown (city and town)	22,649		2	3	12							1	1
Middletown State Hospital													4
Towns under 5,000	24,503	2		1	76	5			1		4	1	3
TOLLAND CO.	**27,665**		**1**					**1**			**2**	**3**	**6**
Vernon (inc. Rockville)	8,822												1
Stafford (town and boro)	5,457		1									1	
Towns under 5,000	13,386							1			2	2	5

Index of Volume 39, 1925 Monthly Health Bulletin

Index of Volume 39, 1925 Monthly Health Bulletin (cont.)

LET NOT HISTORY REPEAT ITSELF!

The Holiday Season Brings Good Cheer

AN EXPRESSION OF GOOD CHEER IS OFTEN FOUND IN THE "CUP THAT WARMS"

DANGER MAY LURK IN THAT CUP

As Shown by the Headlines of Former Days.

DECEMBER 26, 1919

"Seven Die, More Dying of Windsor Street Liquor."

DECEMBER 27, 1919

"Thirty-five Dead in Bay State from Hartford Liquor."

JANUARY 1, 1920

"Fourteen Wood Alcohol Deaths in Hartford Reveals Another Connecticut Poison Shop."

THIRTEEN DEATHS IN ONE CITY DURING A HOLIDAY SEASON IS TOO GREAT A PRICE TO PAY FOR GOOD FELLOWSHIP.

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 40 JANUARY, 1926 No. 1

This Issue Contains

STANLEY H. OSBORN, M. D., C. P. H., Commissioner

ISSUED BY
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HARTFORD

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CONNECTICUT
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STATE DEPARTMENT OF HEALTH

DESIGN AND EQUIPMENT FEATURES OF CONNECTICUT SWIMMING POOLS

By Warren J. Scott

The State Sanitary Code now requires that plans for all future swimming pools be approved by the State Department of Health. In this connection a discussion of conditions disclosed by a recent survey of swimming pools by the State Department of Health may be of interest. The operating features will be discussed in another article.

A classification of the 41 pools, showing the organizations maintaining the pools is as follows:

Y. M. C. A.	14	Private Schools	3
Y. W. C. A.	2	Universities and Colleges	3
Commercial Baths	3	Boys' Clubs	2
Public Baths	1	Church and Community Centers	5
Public Schools	8		

The "Y" has become almost synonomous with swimming pools in our large cities, but now that swimming has grown more popular considerably more than half the pools in the state are now maintained by other organizations.

The features to be considered in the construction of a pool aside from the structural details are its location, capacity, depth, shape, location of inlets and outlets for water, overflow gutters, walks and drains, lining, methods of lighting, heating and ventilation, source of water supply, methods of purification and sediment removal, and the sanitary appurtenances of the pool.

Location. Practically all of the swimming pools are located in the basements, which makes easier the constructional features. Occasionally pools are located on upper floors, in which case extra precautions have to be taken to secure water-tightness and the foundations are more costly. It is, however, an improvement in that natural light is available

and also better ventilation can usually be provided. Of course, it is necessary that the location be convenient to a suitable water supply and sewerage system.

Capacity. The Connecticut pools range from 22 by 13.5 feet holding less than 16,000 gallons, up to 75 feet by 30 feet, holding 150,000 gallons. This largest pool is at Yale University. The most common size encountered is 60 by 20 to 25 feet, holding usually from 55,000 to 60,000 gallons. The depths range from about 3 feet at the shallow end to 9 feet at the deepest point.

The size of the pool is limited, of course, by the number of patrons using the pool in a given time. Theoretically, with a sufficiently rapid re-circulation and purification system, a very small pool could serve a large number of bathers and still maintain satisfactory water. Practically, it is desirable to avoid over-crowded conditions, and the pool must be large enough to furnish ample room to swim for the number of persons it is desired to accommodate at one time.

The Committee appointed by the American Public Health Association recommended that the total number of bathers allowed to use the pool between successive disinfections shall not exceed seven persons for each thousand gallons of water in the pool. This would mean that where intermittent disinfection is used, such as with hypo-chlorite of lime, daily disinfection for a 60,000 gallon pool would allow 420 persons per day, which is rarely equalled in this state. It is also recommended by the Committee that the number of bathers shall not exceed twenty persons per 1,000 gallons of clean water added in any period. This would mean that with continuous disinfection, such as with liquid chlorine, and a pump recirculating the pool contents once a day, for a 60,000 gallon pool, the limit for one hour would be 50 persons; two hours, 100 persons, etc.

By using such calculations, with estimates of the probable number of bathers, it is possible to calculate in advance the desired size of pool and rates of re-circulation and disinfection.

Depth at Diving Board. Diving boards are provided at most of the pools and the depth of water below the diving point ranges from 6 to 11 feet. In only two pools is this depth less than 7 feet. None of the operators interviewed considered the depth insufficient to insure safety and no records of accidents from divers hitting bottom are known in this state.

A questionaire sent out by the Committee on Bathing Places of the Conference of State Sanitary Engineers brought 105 opinions from persons closely connected with pools as to the minimum safe depth of water below diving boards at different elevations above water level. From the replies, the concensus of opinion seemed to be approximately as follows:

Distance of Diving Boards Above Water Level	Minimum Safe Water Depth
0 feet	5 feet
3 feet	6 feet
6 feet	8 feet
10 feet	9 feet

Most of the diving boards at the pools inspected were about 3 feet above water. All of the Connecticut pools would comply with these standards. It does not seem advisable in the case of new pools to allow a depth of less than 7 feet below the diving board. It might be preferable to make this 8 feet in most cases, but this might be limited by a desire to avoid too steep bottom slopes. Also, the element of danger from too great depth over much of the pool must be considered as well as the danger from possible diving accidents.

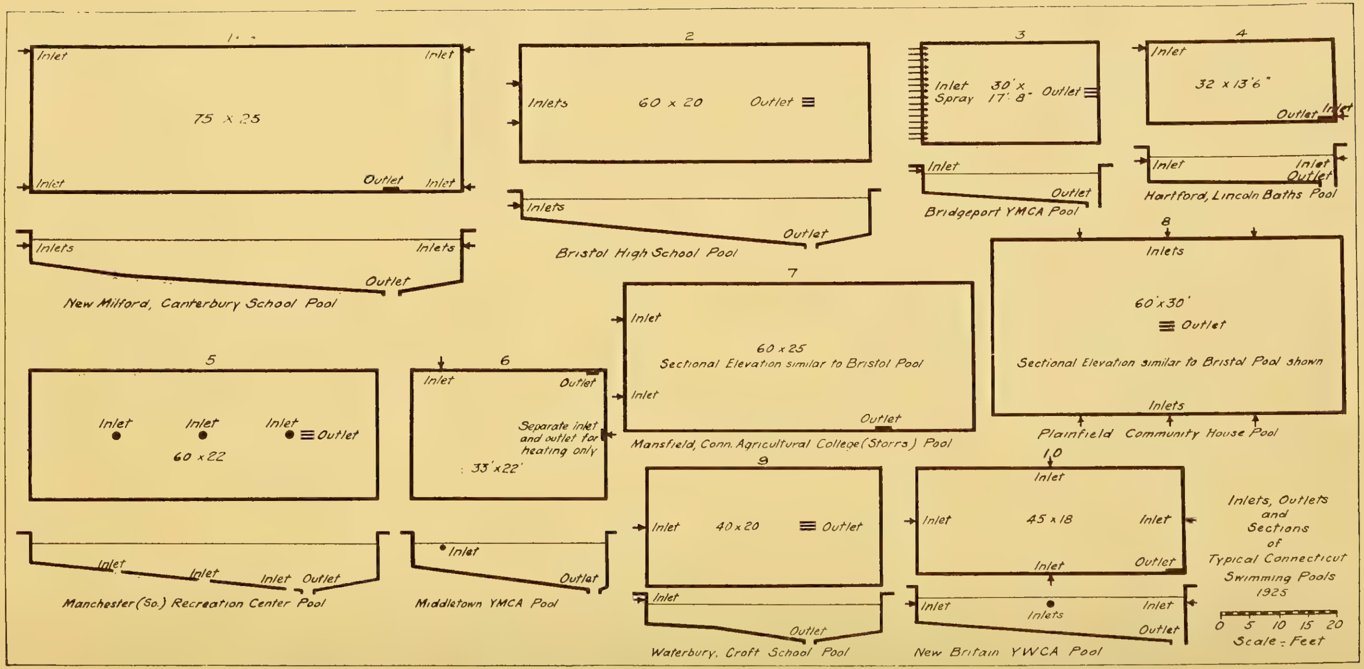
Shape. Closely bound up with the decision as to the best depth is the question of the best shape for the bottom. Varying arrangements at the Connecticut pools are shown in the accompanying sketch. The most common lay-outs were those shown as Figures 2 and 9. The idea of providing an area at the shallow end with horizontal bottom, as shown in Figure 9, is to provide a considerable area for small children. In such a case, a too steep grade beyond the flat area is to be avoided as a sudden change might easily prove disastrous to a child running through the water. Some swimming instructors strongly recommend the arrangement shown in Figure 9, although in some ways a uniform bottom slope seems desirable. The pool shown as No. 2 has a bottom slope of 1:10 which is satisfactory. A much steeper bottom slope than this might prove slippery.

The bottom should slope in all directions to the outlet at the lowest point for the removal of sediment. The point of outlet for this sediment is usually the same as the point of outlet for water to the re-circulating system. A valve is provided on the outlet line through which this sediment can be discharged into the sewer. This is simpler than to provide two separate outlets. The corners of the pool should be rounded to facilitate cleaning.

The arrangements shown in Figures 2, 9, and 10 seem satisfactory.

Inlets and Outlets. There seems to be no point so neglected in the design of many swimming pools now in use as the location of inlets and outlets. The figures shown in the sketch are representative of conditions at the Connecticut pools.

In Pool 1, the distance of travel from the inlets at the deep end is much less than from the other two inlets, and therefore this water would be returned to the re-circulation system more rapidly. The abandonment of the deep water inlets



PLANS AND SECTIONS OF TYPICAL CONNECTICUT SWIMMING POOLS

might provide an improvement. The outlet of this pool should preferably have been at the center. There is a small space for dead water at the end of Pool 2, but this is not a serious defect and the arrangement can be called satisfactory. Pool 3 is provided with an inlet spray above water level. An objection to this feature is that although the water does receive some aeration in this manner and the scenic effect is sometimes attractive, it is likely to release chlorine odors from a chlorinated water. A diagonal path for water travel across Pool 4 is provided, leaving dead spaces. The arrangements at Pools 5 and 6 are unsatisfactory and do not produce uniform circulation. At Pool 7 there is a dead space at one corner. There is every opportunity for short-circuiting in Pool 8. No attempt is made to promote circulation along the sides of Pool 9. The same objections hold to Pool 10 as to Pool 1.

The best and simplest arrangement for inlets and outlets seems to be two inlets below the water surface, as at Pool 2, with an outlet at the boom at the deepest point located equally distant from the sides of the pool. This should provide excellent circulation. The circulation is aided greatly by the stirring up of the water by the bathers, but it is especially important when the incoming water is treated, that every effort be made to distribute this water as uniformly as possible through the pool.

Overflow Gutters. Overflow gutters are valuable for floating off scum by raising the water level and for a convenient trough into which bathers may spit. They should always be provided and should extend completely around the pool, as is the case with most of the Connecticut pools.

These gutters should be designed with care. Some are so constructed that the swimmer often misses the mark when he attempts to spit into them which results in fouling the pool water. Others project so far out as to constitute a nuisance. They should be deep enough to prevent the contents from washing back into the pool when the water surface is agitated; the contents should drain away quickly, and they should be easy to clean. The gutters are very often used for hand holds by swimmers and a shallow gutter with a flat edge is likely to contaminate the hands more readily.

Walks and Drains. Walks surrounding the pools are usually provided with drains under small gratings toward which the floor slopes slightly. A curb at the edge of the pool to prevent drainage into the pool has the disadvantage of furnishing an obstruction over which bathers may trip. The danger of contamination from the walks is not great, especially if persons with street shoes are excluded, as they should be; but it seems desirable to eliminate this drainage from the pool, as, for ex-

ample, when the janitor is washing the walks. It can be fairly well removed by a slight slope away from the pool edge.

The walks should be wide enough for two bathers to pass, perhaps four or five feet. At two pools the walks were so narrow as to be difficult to walk around without danger.

Lining. Most of the pools are lined with white tile or white enameled brick which are both very satisfactory. Cement painted white was used at three pools and is satisfactory so long as the paint surface is kept intact. In one new pool, the ceiling had been tiled to avoid the common trouble from precipitation collecting on and damaging the ceiling. A lining of white or a very light color is necessary for safety, serves to show any undue discoloration or sediment, and is more attractive. Walks are best surfaced with sand-faced tile or other material which is not too slippery.

Lighting. Many pools have natural light but artificial light is required in a number of pools at all times. Indirect lighting is preferable to direct lighting, as the latter is likely to be spotty and glaring. The indirect system furnishes a more even, softer light.

Natural light is secured by admission through side windows or skylights. Where the sun strikes a filtered water, algae growths may develop. Such growths can be destroyed by the application of copper sulphate.

Most of the pools inspected were well lighted.

Heating. Radiators are usually employed to heat the room and are placed along the wall, sometimes near the ceiling to reduce the amount of precipitation on the ceiling. The heating was often found to be unsatisfactory and poorly regulated. A thermostadt is the best method of controlling temperatures but the installation is of no value if not kept working. It is advisable to provide for hand control in addition to automatic control in case of trouble.

The water is usually heated by means of steam heat through coils, without direct contact of steam and water. This arrangement is installed on the re-circulating system.

Ventilation. The ventilation in many of the pools was found to be poor. In some cases, a sweetish or slightly unpleasant "bathy" odor was prevalent, and in a few instances a slight amount of liberated chlorine was not carried off. Ventilation of some pools was by windows or skylights only. Eighteen pools used forced draft and three of these did not use window ventilation. Proper methods of ventilation consist of combinations of window, plenum fan, exhaust fan, and gravity exhaust flues. Window ventilation alone is difficult.

It is evident from the inspections that more careful con-

sideration of the ventilation problem is necessary in the case of new pools and every effort should be made to make use of the facilities available in the existing pools. For example, in some cases fans are installed but seldom or never used.

Sources of Water Supply. Most of the pools use a municipal water supply for the source of water. All of these municipal supplies but one are from surface sources. Four pools use private well supplies and one, a private surface supply. All of the sources of supply are of satisfactory quality. All new private supplies should be inspected and analyzed by the State Department of Health before using.

Devices for Maintaining Water of Suitable Quality. There are only four fill and draw pools in Connecticut, the remainder being equipped with re-circulation systems in which the water is treated and used over again. The fill and draw pools are usually expensive in their large use of water, and the tendency is to neglect filling them as frequently as necessary. If they are filled frequently and disinfected properly, they can be maintained in a satisfactory condition.

The pools with re-circulation systems are provided with pumps, sand filters, devices for adding coagulants, and in many cases continuous disinfection. Sediment removal is by vacuum or brushing.

Appurtenances. An adequate number of showers with hot and cold water is necessary. Shower baths with liberal use of soap and hot water are required for all bathers using the pool. The location of showers should be such that the bathers will not have to walk from them across dirty walks before entering the pool. Proper drainage for the shower floors is, of course, necessary.

Conditions as to requirements for the number of toilets and showers will vary depending on whether swimming classes are conducted as in schools, where only limited time for preparation is allowed, or whether there is no rush of bathers to the pool. It does not seem advisable to have less than one toilet per twenty bathers using the pool at one time and probably a higher number is often necessary. Where urinals are provided in men's toilets, the figure can be made less.

The number of showers is estimated as one for between five and ten bathers.

Summary. As already stated, no attempt is made here to discuss the operating details. The results of the survey by this Department point clearly to the need of regulation of swimming pool design, as evidenced by the numerous haphazard and unsatisfactory conditions.

DIPHTHERIA A NEEDLESS DISEASE*

By Millard Knowlton

You should know that your child need not have diphtheria. You can protect him from the scourge by a very simple procedure. This is possible because diphtheria has yielded more of its secrets to the inquiring scientist than has any other disease. Thus our knowledge of the disease is more complete and satisfactory than our knowledge of any other of the communicable diseases. Not only can diphtheria be cured if treated in time but it can be prevented. The Connecticut State Department of Health wants everybody to know these important facts so that everyone may profit by our knowledge concerning the prevention of this disease.

Diphtheria in the Early Days

Let me sketch for you three pictures of the havoc wrought by diphtheria at three stages in the history of the disease. The first sketch portrays the situation in an age of ignorance when men were groping in darkness for the light of knowledge. It belongs to a time when nothing was known concerning the cause of diphtheria, when measures of prevention were based on superstition rather than knowledge and when the disease often raged in epidemic form, particularly in our larger cities. The picture at that time was such as to strike terror into the heart of every parent for in times of epidemic, few families might expect to escape and most families visited might expect to have one or more of their children taken from them by this treacherous malady. At that time diphtheria was indeed a terrible and much feared disease.

Then the darkness of ignorance began to be dispelled by the light of important discoveries. Antitoxin against diphtheria was introduced in 1894 and the disease has lost many of its terrors since that time. In the last 30 years there has been no great epidemic of diphtheria in any of our larger cities such as often occurred in the pre-antitoxin days. Instead of death overtaking half or more of its victims as formerly, only about one in 12 of those who are afflicted now die of the disease. This is indeed a very great advance over the experience of a generation ago.

The third and last word picture I would have you visualize pertains to the future. With our present knowledge diphtheria is an optional disease. No one need have it if precautions are taken to prevent it. When the disease occurs it is because known measures of prevention have been neglected. If **everyone** would take advantage of our present knowledge, and protect themselves and their children against this scourge,

*Radio Talk Broadcast over WTIC, November 12, 1925.

the disease would cease to afflict our people. But to hope for its complete disappearance is entirely too optimistic. Some neglectful and procrastinating parents will no doubt fail to protect their children so that the disease will remain with us. Perhaps the best we can hope for is that sometime diphtheria may become so rare as to be a curiosity among diseases. This talk is given to hasten that day.

The Conquest of Diphtheria

The record of the conquest of diphtheria reads like a fairy tale. Indeed it is a veritable fairy tale of scientific achievement. A bit of knowledge is gained by poring over the microscope during lone vigils in the laboratory. This bit of knowledge is used to pry further into the secrets of Natue. One by one these secrets are brought forth from their hiding places and pieced together into the fabric of our knowledge till we gain power over the disease, first to cure it and then to prevent it. May I now tell some of these secrets to you who are on the air tonight in the hope of enlisting your aid in the great work of preventing diphtheria?

A number of disease germs manufacture poisonous substances when they grow in the body. The germ of diphtheria is one of the few that makes an especially strong poison. It is this poison, called toxin, which causes diphtheria to be such a dangerous and treacherous disease. The toxin affects especially the nerves, often causing paralysis after the patient is apparently well of diphtheria. In combatting a disease of this kind the body must combat the toxin or poison. Thus in self-defense the body manufactures a substance that acts as an antidote to the toxin. This substance is called antitoxin because it acts against the toxin. The body of a person afflicted with diphtheria manufactures antitoxin rather slowly, often too slowly to be effected in curing the disease. In order to have an adequate supply when needed, man has utilized that faithful old servant, the horse, to manufacture antitoxin for him. The antitoxin manufactured by the horse is prepared and kept ready for instant use when a case of diphtheria develops. By using this antitoxin a large amount can be introduced into the body at once without waiting for the slow process of manufacture within the body. The modern control of diphtheria with the very great lowering of the diphtheria death rate has been due to the use of antitoxin in this way. It is an indispensable remedy in case of diphtheria and is valuable also in temporarily protecting children who have been exposed to the disease.

Diphtheria Immunization

The protection given by injecting antitoxin lasts only a short time, two or three weeks at most. In order to obtain lasting

protection the body must be induced to manufacture its own antitoxin. This can be done in two ways, one of which is dangerous and the other safe. The dangerous method will be followed by most children if the parents do not utilize the safe method. Parents should always choose the safe method of protecting their children.

The dangerous method of inducing a child's body to manufacture its own antitoxin consists in permitting the child to become a diphtheria carrier. Nearly all children will become diphtheria carriers through association with other children sometime during their lives. If the germs in the nose or throat of a carrier grow very slowly and produce only a small amount of toxin, the body will be stimulated to produce antitoxin in self-defense and thus the child may become protected against diphtheria so as not to contract the disease when exposed.

The trouble with this method of becoming immunized is that you never can tell when a carrier may change to a case. The germs carried in the nose or throat may at any time begin to grow more rapidly, and produce the toxin in such large amounts as to poison the body. Thus a diphtheria carrier becomes a diphtheria case. When this happens if the amount of antitoxin in the body be not increased rapidly the disease may end fatally in a very short time.

The safe method of protecting children against diphtheria is to give them the toxin without the germs. Diphtheria toxin can be manufactured in the laboratory. It can be accurately measured into doses sufficiently small to do no harm and yet sufficiently large to stimulate the body to manufacture antitoxin. The great advantage of this method of protecting children is that the dose of toxin can be accurately measured. The toxin produced by germs growing in the nose or throat cannot be measured, and there is no way to prevent the germs from producing an overdose of toxin. But the toxin prepared in a laboratory can be measured out in accurate doses so as not to give an overdose. Three such doses a week apart will protect practically all children against diphtheria. An occasional child may need a second series of doses to complete the protection.

When toxin is used for this purpose it has been found advisable to mix it with antitoxin in certain proportions, and the preparation is called toxin-antitoxin. Sometimes it is called T.-A. for short. Toxin-antitoxin for use in protecting children against diphtheria is furnished free by the Connecticut State Department of Health through the local health officer. Your family physician can obtain a supply from his health officer.

It is not advisable to neglect protecting children against diphtheria with the expectation that if they should come down

with the disease, antitoxin will be used to cure it. Several things may happen to interfere with this plan. In the first place antitoxin may be given too late. In most deaths from diphtheria the physician is not called early enough in the disease. Occasionally a malignant case develops so rapidly that it is not possible to give antitoxin in time to save life.

In the second place diphtheria sometimes develops in the larnyx or windpipe. The child may have croup but not a sore throat, and the parents do not suspect diphtheria. In such cases a child may choke to death before medical service can be obtained.

In other instances diphtheria attacks the nose and may be regarded as an ordinary cold until it is too late.

Furthermore a person who has diphtheria must endure a period of illness and may suffer from bad after-affects such as heart disease or some form of paralysis. Then too a case of diphtheria causes other members of the family to be subjected to inconvenience from quarantine. These, then, are some of the dangers and inconveniences resulting from neglect of the safe method of protecting children from diphtheria.

Hundreds of thousands of children have already been treated with toxin-antitoxin and the safety of the procedure has been amply demonstrated. With young children it seldom causes any disagreeable effects beyond a very slight soreness at the point of injection. Occasionally older children may feel slightly indisposed for a day or two as if they had a mild cold. Nothing more severe need be expected with present dosage of toxin-antitoxin.

The Schick Test

The Schick test for susceptibility represents an interesting achievement in the conquest of diphtheria. Dr. Schick devised the test to find out whether or not a person is protected against the disease. By means of this test we can pick out persons who are already protected against diphtheria and thus save the trouble of giving them toxin-antitoxin. After giving protective treatment the test should be used to learn whether or not the desired protection has actually developed. The test is very simple. It consists of injecting into the skin a tiny accurately measured portion of diphtheria toxin. If the person is protected by having sufficient antitoxin in the blood, the toxin injected into the skin will be neutralized by the antitxin and will produce no effect. If the antitoxin in the blood is less than the amount required to protect against diphtheria, the toxin injected will irritate the skin enough to cause a small red spot to appear around the site of injection. The Schick test may be used to pick out those who need toxin-antitoxin. As most of the younger children, and in some communities

many of the older ones as well, have not yet developed natural immunity, the custom of giving toxin-antitoxin to such children without a previous Schick test is justified. All children treated with toxin-antitoxin should be given the Schick test about 6 months later to be sure they are protected. Occasionally a child will require another series of injections before developing complete protection against diphtheria.

The best time for children to have toxin-antitoxin is at the age of about 6 months. Before this age the body has some protection that has been handed down from its mother. From 6 months to 6 years nearly all children are susceptible to diphtheria. In fact these are the most dangerous years so far as diphtheria is concerned. If protective treatment has been neglected during early ages it should be given to older children or adults who may be found susceptible to diphtheria.

Diphtheria Death Rate Downward

That toxin-antitoxin does protect against the disease is shown by the experiences of various communities where the measure has been extensively applied. One illustration is sufficient for our purpose. In the city of New Haven, where an immunizing campaign has been carried on vigorously through the schools for the past two years, the diphtheria death rate has reached a very low point. Last year for example there were only three resident deaths from diphtheria in New Haven giving a death rate from this disease of 1.7 per hundred thousand population as compared with a rate of 11.2 for the State as a whole. There were also 4 deaths of non-residents in New Haven during the year. If these be added to the 3 resident deaths and the death rate calculated it will be found that the 7 deaths which occurred in New Haven will give a rate of only 4 per hundred thousand population as compared with nearly 3 times that rate for the State as a whole.

You are advised to see your physician about protecting your children from diphtheria. The Connecticut State Department of Health has published a circular explaining this matter to parents. A copy of the circular will be sent to anyone upon request addressed to the Connecticut State Department of Health. Hartford, Connecticut. You should not wait to read about the matter but should consult your family physician at once and take his advice to protect your children.

I have told you tonight how both children and adults may escape diphtheria. But merely talking about it does not protect. You must take action to secure protection for your children. My advice is that you should act at once to remove the hazard of diphtheria from your family. Go to your family physician immediately for the protective treatment that may save your child's life!

SEPTIC SORE THROAT IN HUMANS AND MASTITIS IN COWS

By Millard Knowlton

The term septic sore throat is appropriately applied to an infection of the throat with certain types of hemolytic streptococci which provoke an inflammatory reaction with ulceration and destruction of tissue. This type of infection may be conveyed from one person to another by contact, but does not appear to be spread in epidemic form except through the agency of milk.

The excellent qualities of milk as a culture medium make it an ideal vehicle for conveying organisms of this kind. The entrance of a few such organisms into the milk may result in heavy dosage to the consumer through rapid multiplication in the milk where temperature conditions permit such growth.

Outbreaks of septic sore throat in milk consumers are so much less frequent than the occurrence of streptococci in milk as to indicate that only a few of the strains of streptococci found in milk are injurious to man. Some workers seriously doubt that bovine types of streptococci are pathogenic for humans. If this be true then the few strains injurious to man are streptococci of human origin. The germs may reach the milk directly from a human handler or from a cow infected with the human type of streptococcus. This explanation appears plausible and would account for the fact that even high grade milk usually contains streptococci in fair numbers but the germs are only occasionally pathogenic for man. Thus, relatively few outbreaks of septic sore throat occur on milk routes as compared with a much larger number of milk supplies that contain streptococci.

Much work has been done with the idea of developing a laboratory test for differentiating the human and bovine types of streptococcus. No such test has yet been adopted as a routine laboratory procedure. In the absence of a routine test for differentiating the human from the bovine type of streptococcus found in the milk of cows suffering from mastitis, a procedure for safeguarding human health in such cases must rest upon some basis other than laboratory findings. In addition to the health hazard it is considered that for esthetic reasons milk from diseased udders should not be consumed by human beings. Thus in answer to inquiries by veterinarians as to the disposition of the milk in cases of mastitis it is believed that the following procedures will cover the situation:

1. All cows suffering from inflammation of the udder as shown either by physical examination or the presence of pus in the milk should be removed from the herd and their milk kept out of the market supply.

2. Where any cases of septic sore throat have occurred among human consumers of the milk supply, milk from the apparently well cows in the herd should not be sold unless properly pasteurized in a plant satisfactory to the health authorities.

This procedure implies that when no human cases of septic sore throat have occurred among consumers, milk from apparently healthy cows in the herd may be sold raw. The point is that mastitis due to streptococcus or other infection is so frequent that in some instances a large herd may include one or more cows with mastitis most of the time, and the occurrence of such condition would not warrant the exclusion from sale of milk produced by apparently healthy animals in the herd unless cases of human illness indicate that the germs are pathogenic for man. It is believed that the procedure suggested will adequately safeguard the health of the consumer and at the same time be fair and just to the milk producer.

After the foregoing was in type the writer heard of an instance of illness following the use of milk from a cow with mastitis due to the bovine type of streptococcus. The symptoms were gastro-intestinal in character and included vertigo and nausea and vomiting but did not include sore throat. They were quite severe for a short time but soon disappeared leaving no after-effects.

From the character and short duration of the symptoms one may be tempted to attribute them to a toxin present in the milk rather than to bacterial action after the milk was consumed. However that may be, one is reminded that our knowledge of the streptococcus is far from complete.

This instance of illness serves to emphasize the need for removing all cows suffering from inflammation of the udder from the herd and keeping their milk out of the market supply. If to this measure be added the precaution of pasteurizing milk from apparently healthy cows in the herd in case illness has occurred among human consumers of the milk it is believed that illness due to streptococci in milk will be reduced to a minimum.

Of course it goes without saying that when a cow is ill from any cause her milk should be kept out of the market supply. Food poisoning germs that cause illness in cows may be conveyed to man through milk.

NEWS FROM THE FIELD

Among the Health Officers:

Raymond D. Fear, M. D., has returned to fill his former position as Health Officer of Stamford.

Conference of Swimming Pool Operators

A successful conference for swimming pool operators arranged by the State Department of Health was held at Hartford on December 29, with representatives from Naugatuck, Willimantic, Hartford, Torrington, Waterbury, West Hartford, Meriden, New London, New Haven and Storrs in attendance.

Control of swimming pools in Hartford during the last four years was discussed in some detail by Dr. C. P. Botsford, Health Officer. The construction features of Connecticut swimming pools and the best methods of operation were also discussed. Emphasis was laid on the need for adequate supervision and analytical control of the swimming pool water. The sanitary code requirements were taken up at the round table discussion. A visit to the laboratories of the State Department of Health was made in the afternoon.

Public Health Education

A short course in public health education has just been completed at the Y. M. C. A. at Norwich. Each talk was illustrated with moving picture films.

The Public Health course consisting of fourteen lectures arranged for nurses in hospital training schools, public health nurses and the other community leaders is being given at Litchfield County Hospital at Winchester, and seven of the lectures at Stamford Hospital.

During the months of November and December, twenty-six different towns in the state received various forms of health service. Posters were sent to nine towns, films were in use at eight, talks were given at eleven towns not counting six radio talks which probably reached every town in the state, and stereopticon slides were used at eight towns. This service reached upwards of thirteen thousand people.

Connecticut Public Health Association Meeting

On February 11th at 10:30 A. M. the Connecticut Public Health Association will meet at Bridgeport at the Welfare Building, Corner of Washington and Madison Aves. The meeting opens with a clinic on Scarlet Fever Diagnosis directed by Dr. W. H. Coon, Health Officer of Bridgeport, followed by a paper on Scarlet Fever by Dr. Francis G. Blake of Yale University School of Medicine. In the afternoon Dr. Haven Emerson of Columbia University will discuss "Preventable Diseases of Adult Life."

POPULATIONS AS OF JULY 1, 1926

STATE, COUNTIES, AND TOWNS UNDER 5,000

State Population 1,558,996

Counties

Fairfield	371,561	New London	113,554
New Haven	467,392	Windham	55,799
Hartford	393,501	Middlesex	49,185
Litchfield	80,282	Tolland	27,722

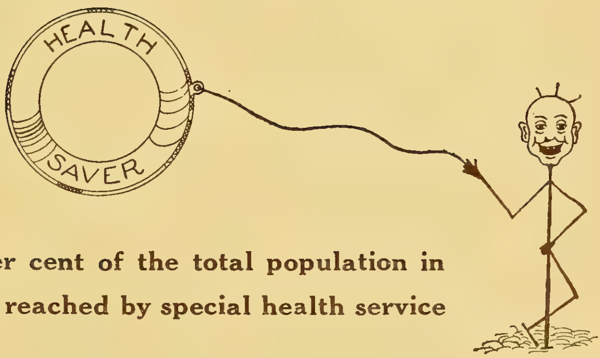
Towns Under 5,000

Andover	400	Guilford	2,723
Ashford	676	Haddam	1,669
Avon	1,665	Hampton	453
Barkhamsted	689	Hartland	428
Beacon Falls	1,882	Harwinton	2,367
Berlin	4,679	Hebron	929
Bethany	395	Kent	1,078
Bethel	3,021	Killingworth	505
Bethlehem	534	Lebanon	1,286
Bloomfield	2,776	Ledyard	1,216
Bolton	457	Lisbon	895
Bozrah	858	Litchfield	3,229
Bridgewater	457	Lyme	660
Brookfield	856	Madison	2,072
Brooklyn	1,575	Mansfield	2,973
Burlington	1,037	Marlborough	303
Canaan	533	Middlebury	1,221
Canterbury	915	Middlefield	1,053
Canton	2,483	Monroe	1,267
Chaplin	375	Montville	3,817
Cheshire	3,435	Morris	463
Chester	1,845	New Canaan	4,046
Clinton	1,225	New Fairfield	451
Colchester	2,032	New Hartford	1,635
Colebrook	478	New Milford	4,664
Columbia	745	Newington	2,843
Cornwall	798	Newtown	2,647
Coventry	1,576	Norfolk	1,105
Cromwell	2,682	North Branford	1,294
Darien	4,343	North Canaan	1,885
Durham	951	North Haven	1,860
Eastford	492	North Stonington	1,172
Easton	1,010	Old Lyme	879
East Granby	1,229	Old Saybrook	1,453
East Haddam	2,310	Orange	1,835
East Hampton	2,416	Oxford	994
East Haven	4,674	Plainville	4,938
East Lyme	2,541	Pomfret	1,324
East Windsor	3,994	Portland	3,839
Ellington	2,211	Preston	3,295
Essex	2,912	Prospect	212
Farmington	4,089	Redding	1,195
Franklin	568	Ridgefield	2,543
Goshen	675	Rocky Hill	1,931
Granby	1,334	Roxbury	609
Griswold	4,218	Salem	420

Salisbury	2,052	Union	243
Saybrook	2,605	Voluntown	612
Scotland	373	Warren	349
Sharon	1,465	Washington	1,593
Sherman	526	Waterford	4,480
Simsbury	3,249	Westbrook	829
Somers	1,685	Weston	677
Southbury	1,055	Willington	1,258
South Windsor	2,112	Wilton	1,182
Sprague	2,488	Windsor Locks	3,492
Sterling	1,262	Wolcott	822
Suffield	4,223	Woodbridge	1,365
Thomaston	4,250	Woodbury	1,648
Tolland	1,004	Woodstock	1,743
Trumbull	3,235		

Total, Towns Under 5,000 212,599

Towns over 5,000 will appear on statistical sheet, page 21.



Over ten per cent of the total population in the state were reached by special health service during 1925.

Let us increase this to fifteen per cent in 1926.

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF DECEMBER, 1925

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of Decembe,, 1925, with the corresponding month for the years 1920, 1921, 1922, 1923 and 1924.

DISEASE	Average 1920-1924 for December	Mean 1920-1924 for December	1920	1921	1922	1923	1924	1925
Cerebrospinal Meningitis ..	3	4	4	1	4	4	1	4
Diphtheria	384	370	575	375	370	305	293	185
Encephalitis Epidemic	2	2	1	2	2	......	7	5
Measles	597	542	251	542	1234	886	71	787
Poliomyelitis	3	3	......	3	2	7	2	2
Scarlet Fever	566	474	683	411	436	474	824	276
Smallpox	1	3	......	3	2	1	......	......
Typhoid Fever	26	27	40	17	14	27	33	30
Tuberculosis (pulmonary)	121	114	176	92	116	114	105	85
Whooping Cough	238	222	415	155	280	116	222	224

A comparison of the morbidity on these diseases for the two preceding months, October and November with the December record is as follows:

	October	November	December
Cerebrospinal Meningitis	3	1	4
Diphtheria	126	173	185
Encephalitis Epidemic	1	4	5
Measles	125	261	787
Poliomyelitis	3	3	2
Scarlet Fever	134	185	276
Smallpox	......	......	......
Typhoid Fever	42	17	30
Tuberculosis (pulmonary)	108	103	85
Whooping Cough	161	235	224

Cases of Other Reportable Diseases

Chickenpox	412
Conjunctivitis Infectious	1
Encephalitis Epidemic	5
German Measles	18
Influenza	38
Malaria	2
Mumps	37
Para-typhoid Fever	2
Septic Sore Throat	44
Tetanus	1
Trachoma	2
Gonorrhoea	81
Syphilis	61
Total	704

Cases of Occupational Diseases

Dermatitis	1
Dermatitis Venenata	2
Eczema Manu	1
Erythema Multiforme	1
Lead Poisoning	1
Total	6

Cases of Certain Reportable Diseases

DECEMBER, 1925	Population Est. as of July 1, 1925	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Broncho-Pneumonia	Other Com. Diseases
State Total	1,529,688	30	787	276	224	185	4	2	85	7	233	154	704
NEW HAVEN CO.	**459,157**	**12**	**113**	**80**	**46**	**47**		**1**	**24**	**3**	**74**	**47**	**254**
New Haven	178,735	1	43	12	27	2			8	2	36	22	151
Waterbury	102,134	10	19	12	3	14			6	1	11	9	19
Meriden (city and town)	36,251		5	26	2	2			3		10	5	10
Ansonia	19,034			1				1	1				1
West Haven	17,834	1	18	9					1		1	7	4
Naugatuck	16,350												
Wallingford (town and boro)	12,483		3	3		3			2		1		3
Milford	13,473		17	5	8				1		7	2	7
Derby	12,500												2
Hamden	10,150		1	5	3	7					5	1	23
Branford (town and boro)	6,954			1		18							2
Seymour	7,911										1		
Towns under 5,000	25,348		7	6	3	1			2		2	1	32
FAIRFIELD CO.	**363,740**	**5**	**405**	**86**	**26**	**51**	**1**		**18**	**2**	**35**	**35**	**123**
Bridgeport	166,644	1	347	38	17	27			7	1	21	25	29
Stamford (city and town)	46,218	1	13	19		12			1				26
Norwalk	29,596			2		4			3		1	3	3
Danbury (city and town)	21,931	2		1		1	1		2			1	6
Greenwich (town and boro)	25,207		3	9	6				1		3	4	4
Stratford	16,085		32	4	1				1	1	4	2	7
Fairfield	14,490		3	1		3			1				31
Shelton	11.134			1									
Westport	5,597			3		4			1		2		
Towns under 5,000	26,838	1	7	8	2				1		4		17
HARTFORD CO.	**384,608**	**8**	**180**	**57**	**32**	**54**	**2**	**1**	**31**	**1**	**74**	**44**	**202**
Hartford	160,190	3	128	18	9	25			14	1	24	24	84
New Britain	67,896	4		7	4	5	1		2		20	7	32
Bristol (city and town)	24,621	1		5	11	21			6		8		29
Manchester	21,018		2	7	3			1	2		4	5	10
Enfield	12,834					1			2			1	7
East Hartford	13,616		4	1					1		2	1	2
Southington(town and boro)	9,529		1	7							3		2
West Hartford	11,146		2									2	27
Windsor	6,436		12	1			1				2	3	2
Glastonbury	6,042			6	5				1				1
Towns under 5,000	46,253		31	5		2			3		11	1	6
NEW LONDON CO.	**112,155**	**1**	**43**	**32**	**11**	**20**			**7**		**11**		**30**
Norwich (city and town)	30,425		24	9	1	10			2		3		1
New London	29,003			14		3			2		3		20
Stonington (town and boro)	10,819				6	3			1				
Groton (town and boro)	10,764			9		1					1		
Towns under 5,000	31,144	1	19		4	3			2		4		9
LITCHFIELD CO.	**79,851**	**3**	**8**	**6**	**14**	**5**			**3**		**7**	**10**	**9**
Torrington (town and boro)	24,492								1				
Winchester (inc. Winsted)	9,129					1							
Plymouth	6,349			1		2					1		1
Watertown	7,192	1		2		2						1	
Towns under 5,000	32,689	2	8	3	14				2		6	9	8
WINDHAM CO.	**55,360**		**9**	**6**		**2**				**1**	**13**	**8**	**24**
Windham (inc. Willimantic)	14,368		2	2							3	2	4
Putnam (city and town)	8,990		1	1							5	2	
Plainfield	8,570					2							
Killingly (inc. Danielson)	9,051			2							1	1	2
Thompson	5,196		2								1	1	2
Towns under 5,000	9,185		4	1						1	3	2	16
MIDDLESEX CO.	**47,152**		**21**	**6**	**91**	**6**			**2**		**14**	**7**	**58**
Middletown (city and town)	22,649		19	1	18	1			2		3		12
Towns under 5,000	24,503		2	5	73	5					11	7	46
TOLLAND CO.	**27,665**	**1**	**8**	**3**	**4**		**1**				**5**	**3**	**4**
Vernon (inc. Rockville)	8,822						1						2
Stafford (town and boro)	5,457		8	1							1		1
Towns under 5,000	13,386	1		2	4						4	3	1

Laboratories

SUMMARY OF BUREAU ACTIVITIES FOR DECEMBER, 1925

DIAGNOSTIC

	+	—	?	Total	
Typhoid	4	80	2	86	
Paratyphoid A	....	86	....	86	
Paratyphoid B	....	86	....	86	
Diphtheria	834	2120	....	2954	
Diphtheria Virulence	4	12	....	16	
Vincent's Angina	3	796	....	799	
Haemolytic Streptococci	20	778	....	798	
Tuberculosis	22	79	....	101	
Syphilis	284	1419	206	1909	
Gonorrhoea	12	94	....	106	
Pneumonia Typings	2	3	....	5	
Malaria	....	3	....	3	
Rabies	5	7	....	12	
Special	8	43	....	51	7012

CHEMICAL AND BACTERIOLOGICAL

Milk samples	194	
Water samples	143	
Oyster samples	8	
Sewage samples	21	
Clinical thermometer examinations	46	412
Total number of examinations made		7424

Swimming Pool Operators Visit Laboratories

On Tuesday, December 29, 1925, a meeting was held at the Hotel Bond under the auspices of the State Department of Health, to which were invited all persons interested in the supervision or operation of any swimming pools in the State. The afternoon session of the meeting was held at the Bureau of Laboratories and about twenty people listened to talks and demonstrations by the bacteriological and chemical staff of the Laboratories. Opportunity was given for those interested to make certain chemical determinations in the laboratory which this Department is advising swimming pool operators to make on samples collected at the pools. Several of those present availed themselves of the opportunity of making these tests.

Vital Statistics

MONTH OF NOVEMBER, 1925

Births

For this month, 2,198 births were reported, a decrease of 298 as compared with 2,496 reported in 1924. So far during the year 26,947 births have been reported as compared with 29,252 in 11 months of 1924. This is a decrease of 2,305. The rates, referred to an annual basis, are, for 1925, 19.2; for 1924, 21.2. It seems fairly certain, therefore, that the birth rate for the state will be below 20.0 for the year 1925.

Sixteen towns out of 47 over 5,000 in population reported more births in 1925 than in 1924 for November. Of these having increases of 10 or more appear Derby 21 ± 8; East Hartford 11 ± 4; New London 10 ± 10. The increases, therefore, experienced by Derby and East Hartford appear of significance while that for New London is of no statistical significance.

There were reported 84 stillbirths as compared with 86 in 1924. The monthly rates for stillbirths are, 1925, 37.0 ± 4.1 and for 1924, 33.3 ± 3.6. The increase in the rate is 3.7 ± 6.0 and of no significance.

Deaths

There were 1,431 reports of deaths filed, an increase of 63 over 1,368 reported a year ago. This increase, of course, is entirely without significance.

So far there have been 16,091 deaths as compared with 15,528 for 11 months of 1924. The annual rate, if this proportionate rate is maintained through December, will be 11.5. The rate for 1924 was 11.3 and therefore a slight but insignificant increase in the rate for 1925 may be expected.

Below is given a comparative tabulation of certain causes of death for 1925 and 1924.

Cause of Death	1925	1924	Increase	Decrease
Diseases of the Heart	262±16	187±14	75±21	....
Epidemic Encephalitis	1± 1	4± 2	....	3± 2
Pneumonia Undefined	....	4± 2	....	4± 2
Typhoid Fever	3± 2	....	3± 2	....
Measles	4± 2	....	4± 2	....
Scarlet Fever	4± 2	2± 1	2± 2	....
Whooping Cough	11± 3	6± 2	5± 4	....
Diphtheria	10± 3	14± 4	....	4± 5
Influenza	27± 5	25± 5	2± 7	....
Tuberculosis Pulmonary	67± 8	66± 8	1±12	....
Tuberculosis Other Forms	8± 3	13± 4	....	5± 5
Cancer	142±12	143±12	....	1±17
Cerebrospinal Meningitis	....	1± 1	....	1± 1
Poliomyelitis	....	1± 1	....	1± 1
Lobar Pneumonia	79± 9	62± 8	17±12	....
Broncho Pneumonia	91± 9	64± 8	27±12	....
Diarrhoea & Enteritis, (Under 2)	11± 3	26± 5	....	15± 6
Puerperal Diseases	7± 3	17± 4	....	10± 5
Accident	89± 9	92±10	....	3±13
Suicide	13± 4	11± 3	2± 5	....
Homicide	3± 2	7± 3	....	4± 3
Other Causes	599±24	623±25	....	24±35
Totals	1,431±38	1,368±37	138	75

The increase in deaths due to heart disease is apparently significant, being more than 3 times its standard deviation. The increase in broncho pneumonia is also worthy of note. The increase in this disease is about due now and we have the forewarning sign in the figures. Pneumonia has a pronounced seasonal variation and November is the beginning of the open season.

The decrease in diarrhoea is of note as is the decrease in puerperal diseases. Perhaps, however, if these were referred to rates the decrease would not be so pronounced. With a lower birth rate the group under two years will be smaller as also will be the possibility of contracting puerperal diseases.

The automobile accident deaths decreased from 40 in 1924 to 36 in 1925. For 11 months we have the following figures for automobile accidents: 1925, 298 deaths; 1924, 254 deaths. This is an increase of 44 deaths.

Infant Mortality is somewhat lower for the month. For 11 months of 1925 there were 1,992 deaths of infants under one year as compared with 2,017 for the corresponding period in 1924. This is a decrease of 25. If the same ratio of deaths is maintained throughout the year, there will be 2,173 deaths of infants in 1925 as compared with 2,176 in 1924. The infant mortality will be 74 as compared with 69 in 1924. The figure for 1925 is, of course, an estimate.

Marriages

Reports were received of 1,097 marriages; 1,219 were recorded in 1924 showing a decrease in 1925 of 122. For 11 months of 1925 the total number of marriages is 622 below the corresponding period of 1924.

For Six Years—November, 1925

CONNECTICUT	1920	1921	1922	1923	1924	1925
BIRTHS	2589	2675	2362	2352	2496	2198
Birth Rate	22.3	22.6	19.6	19.1	19.9	17.2
MARRIAGES	1390	1142	1311	1365	1219	1097
Marriage Rate	11.9	9.6	10.9	11.1	9.7	8.6
DEATHS	1361	1292	1346	1307	1368	1431
Death Rate	11.7	10.9	11.2	10.6	10.9	1 1.2
COMMUNICABLE DIS.* DEATHS	187	118	154	166	117	126
Per Cent to Total Deaths	13.7	9.1	11.4	12.7	8.5	8.8
DEATHS UNDER 1 YEAR	247	160	131	156	178	162
Rate Per 1,000 Births	86.7	56.3	50.3	61.0	67.3	60.9

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

Births, Marriages and Deaths

NOVEMBER, 1925 Statistics	Population Est. as of July 1, 1925 Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Stillbirths	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	5 years and over
State of Connecticut	1,529,688	2198	84	1097	1431	11.2	0.5	60.9	162	43	564
Ansonia	19,034	19	....	4	15	9.5	0.6	159.4	4	1	7
Branford	6,954	6	....	3	4	6.9	1.7	102.5	1	....	....
Bridgeport	166,644	250	9	100	139	10.0	0.1	58.6	16	7	38
Bristol	24,621	41	1	24	18	8.8	....	39.7	2	2	8
Danbury	21,931	32	....	23	25	13.7	....	46.3	2	....	14
Derby	12,500	40	1	7	22	21.1	....	163.3	5	1	5
East Hartford	13,616	13	....	7	8	7.1	....	80.5	1	1	5
Enfield	12,834	19	....	19	9	8.4	....	40.5	1	....	1
Fairfield	14,490	14	....	6	5	4.1	....	54.7	1	....	2
Glastonbury	6,042	3	....	2	5	9.9	....	....	....	....	3
Greenwich	25,207	39	4	44	21	9.9	0.5	75.6	3	....	6
Groton	10,764	12	....	6	8	8.9	3.3	177.7	2	....	4
Hamden	10,150	13	....	10	10	11.8	....	61.2	1	....	6
Hartford	160.199	326	21	143	154	11.5	0.7	53.4	18	6	46
Killingly	9,051	15	....	6	6	19.0	1.3	122.4	2	....	3
Manchester	21,018	35	1	20	25	14.3	....	52.5	2	1	10
Meriden	36,251	51	3	29	42	13.9	0.3	103.2	6	....	17
Middletown	22,649	33	2	16	49	26.0	1.1	39.8	2	....	20
Milford	13,473	....	....	....	....	....	....	....	....	....	....
Naugatuck	16,350	11	....	7	5	9.7	....	71.0	1	....	1
New Britain	67,896	124	5	43	37	6.5	0.5	72.9	10	....	8
New Haven	178,735	283	6	147	161	10.9	0.5	62.7	21	10	58
New London	29,003	51	1	32	29	12.0	0.4	61.8	4	1	9
Norwalk	29,596	42	2	17	32	13.0	0.8	33.8	2	1	16
Norwich	30,425	54	1	24	50	19.7	0.4	145.2	10	1	18
Plainfield	8,570	10	1	7	7	21.5	....	....	....	....	6
Plymouth	6,349	6	....	5	4	7.6	....	118.8	1	....	3
Putnam	8,990	13	....	11	14	18.7	....	209.6	4	1	4
Seymour	7,911	7	....	1	4	6.1	3.0	....	....	....	1
Shelton	11,134	11	....	5	16	26.2	....	....	....	....	3
Southington	9,529	15	2	2	4	5.0	....	....	....	....	2
Stafford	5,457	13	....	3	2	4.4	....	....	....	....	2
Stamford	46,218	90	2	32	46	11.9	0.5	91.6	9	3	14
Stonington	10,819	9	....	7	10	11.1	....	69.8	1	....	6
Stratford	16,085	20	1	4	12	8.9	0.7	51.5	1	....	7
Thompson	5,196	7	....	6	1	2.3	....	....	....	1	....
Torrington	24,492	31	2	11	23	11.3	1.0	67.6	3	....	9
Vernon	8,822	13	2	9	8	22.2	....	....	....	....	2
Wallingford	12,483	9	1	3	10	9.6	0.9	64.5	1	....	7
Waterbury	102,134	151	7	89	98	11.5	0.5	49.4	10	1	34
Watertown	7,192	4	....	3	3	5.0	1.7	....	....	....	2
West Hartford	11,146	11	....	4	16	26.2	....	125.6	2	....	11
West Haven	17,834	24	....	9	25	16.8	0.7	88.0	3	....	8
Westport	5,597	....	1	3	4	8.6	....	....	....	....	....
Winchester	9,129	10	1	5	9	11.8	1.3	....	....	....	5
Windham	14,368	24	2	15	26	21.7	0.8	69.4	2	....	13
Windsor	6,436	3	....	4	2	5.3	....	....	....	....	2
Towns under 5,000	209,346	191	5	120	208	11.9	0.6	27.5	7	5	118

for the month of November, 1925

DEATHS FROM IMPORTANT CAUSES

Diseases	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
2	1		3	4	4	11	10	27	67	8	142			79	91	11	7	89	13	3	486	239
..							1	2			3				2							
....									1					1	1				1			
1[illegible]				2		3	4	1	2	2	16			12	6	1		14	2		65	12
3			1		1	1					2							1	1		2	1
6								1			4				1		1	2			13	8
3				1		1					2			1	1			1			8	6
3				1				1														
2														1					1		1	1
...																			1			1
.											1									1		
6							1	1			2			1	2				1		6	4
1								1	2												2	2
:								1						1				2				2
4			1		1				6		23			10	13	1	1	12			88	30
1																						
4								1			2			4	1	1					7	1
10								1	1	1	6			3	7				1		10	4
5									2		5			2	4	1		6	1		24	24
....																						
1																		1				
4						1			3	1	2			3	1		1	3			10	2
26						1		2	4		13			8	18	2	1	9	1		71	24
7					1				1		3			1	3			1			12	6
8							3	1	1	1	1			1	1			5		1	7	2
15						1		1	2		3			2	2			4	1	1	17	8
1															1							1
.....								1			1											
1											4				2						5	4
.....																		1				2
3								1	7	1	2			1							7	7
.....															2							1
1																					2	
4							1	2	2		5			3	3	1	1				17	5
3						1									1							
3									1		2					1						2
.....																1						
5			1					1	1		2			3		1		1			10	3
1											2							1			2	1
5														1	1						3	1
19					1			2	4		9			5	5		2	8			48	16
1									1													
7											1					1					5	2
5								1	6		2			2	2			1			6	6
1	1										1											
2									1		1							1			1	1
3									1		2			4				1	2		8	5
.....														1								
49						2		5	18	2	20			8	11			13			29	44

THE GOLDEN RULE OF HEALTH FOR 1926

Balance each day with some absorbing occupation, some form of exercise, a little relaxation, regular meals of healthful foods in which milk, green vegetables and fruits form a part, some time spent out of doors in the sunlight, some social contact with your neighbors, a fair sprinkling of fun, long hours of continuous sleep, and permeate the whole with a cheerful disposition.

If this rule is followed every day of the year there will be found a reserve store of health WHEN THE YEARLY HEALTH EXAMINATION IS MADE.

State of Connecticut Health Bulletin

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Vol. 40 FEBRUARY, 1926 No. 2

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STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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CONNECTICUT
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STATE DEPARTMENT OF HEALTH

MENTAL HYGIENE—WHAT IS IT?*

By Harold A. Bancroft

Mental hygiene deals with the principles of mental health. There is nothing mysterious about it. It is not a highly technical investigation of the hidden working of the human mind. It is simply a very important phase of public health work which concerns all of the public as well as the professions. More specifically, mental hygiene means the conservation of mental health; the eradication of mental disease; the cure of those already mentally ill; and the prevention of the development of mental disorder in the coming generations. It is fully as important a part of a general public health campaign as any movement directed toward the eradication of physical illness.

There have already been great victories in campaigns against physical disease. Cholera, plague, yellow fever and smallpox, by vigorous attack have been isolated in a few remote parts of the earth and now occur in this country only sporadically. Public health measures directed toward typhoid fever have brought it well under control. Tuberculosis is being brought under control and active measures are being directed toward venereal diseases. Nutritional guidance of the young as a part of the public health movement is resulting in the production of sturdier children who will grow up to be healthy adults, better equipped to withstand disease. Children are now being trained to establish good posture, to take proper care of their teeth, to secure plenty of fresh air, to exercise, to keep their skin clean. They are being taught to do all of the things that will produce a healthy physical state. The time has now come to carry forward a movement to establish in children the foundations of a healthy mental state, healthy habits of thinking, feeling and acting. The training of a child in these healthy mental habits is just as

*Radio talk broadcast over WTIC December 28, 1925

much a duty of a parent as seeing that the child brushes his teeth and bathes regularly.

History of Mental Hygiene

The term mental hygiene was practically unheard of twenty years ago. Certainly it had not then the significance that it has now. It is a matter of interest that mental hygiene really originated in Connecticut. Mr. Clifford Beers, a native of Connecticut, after recovering from a severe mental illness, during which he was cared for in mental hospitals in Connecticut was, as a result of his experiences, impressed with the feeling that the question of mental disease was a public health problem and that it demanded immediate attention. Inspired by this thought he wrote a book entitled "A Mind that Found Itself." This book describes his experiences as a patient in mental hospitals. Soon after its publication, Mr. Beers proceeded to organize the Connecticut Society for Mental Hygiene which began its activities in 1908. Stimulated by this, the National Committee for Mental Hygiene was organized in 1909 and began active work in 1912. Since then the mental hygiene movement has progressed rapidly. Mental hygiene as now organized in this country consists of the National Mental Committee for Mental Hygiene, and state societies for mental hygiene of which the Connecticut Society is the pioneer. Within the last two years interest has been aroused in communities with the result that local branches are being established, and many states, recognizing the importance of and necessity for mental hygiene, are adding departments of mental hygiene to their state organizations. In Connecticut there is a Division of Mental Hygiene as a part of the Connecticut State Department of Health.

The interpretation of the term mental hygiene has been considerably modified since its coinage. Mr. Beers' conception of the term was probably of activities directed mainly toward the improvement of the care given patients in mental hospitals. That original concept still has a part in the program of mental hygiene but many other ideas have been added and the whole meaning greatly elaborated until today it covers a very widespread field.

The program of mental hygiene is adequately expressed in a summary in one of the publications of the National Committee for Mental Hygiene.

"The National Committee for Mental Hygiene and its affiliated state societies and committees are organized to work for the conservation of mental health; to help prevent nervous and mental disorders and mental defect; to help raise the standards of care and treatment for those suffering from any of these disorders or mental defect; to secure and disseminate

reliable information on these subjects and also on mental factors involved in problems related to industry, education, delinquency dependency and the like; to cooperate with federal, state and local agencies, and with officials and with public and private agencies, whose work is in any way related to that of a society or committee for mental hygiene."

A large portion of this work has consisted in the education of the public in matters of mental hygiene and in giving clinical aid to mentally sick people. In the last decade a great deal of attention has been given to the mental hygiene of children because of the dawning realization that many of the mental disorders appearing in adult life have their roots in emotional, instinctive, and volitional disorders which occur in childhood or even in infancy. So-called child guidance and habit training clinics are being organized every year due to the realization of the importance of the mental life of the child.

The Problem of Mental Disorder in Connecticut

The need of mental hygiene is self evident. Mental disorder is everywhere about us. Mental disorder does not mean so-called insanity alone. The term includes all degrees of mental abnormality ranging from the serious conditions requiring institutional treatment to mild disorders of the emotions and the will which handicap a person in efficiently adjusting himself to the continuous stream of irritating and perplexing situations which daily arise in his life.

Patients with serious mental disorders fill our state hospitals. The Connecticut State Hospital is overcrowded to the extent of about 20 per cent, and the Mansfield State Training School and Hospital, for the treatment and training of the epileptic and feeble-minded, is overcrowded and has a waiting list of between four and five hundred which is increasing daily.

Our penal and corrective institutions contain large numbers of delinquents who have come into conflict with the law, often because of mental disorder. They are examples of poor mental hygiene or, more probably, no mental hygiene. A survey of the inmates of the Connecticut State Prison revealed that out of 622 who were examined, 267 or 42.92 per cent were mentally abnormal in one way or another. One hundred thirty-six of the total number were mentally deficient, 55 of the total number were found to be insane and 53 were found to be suffering from an abnormal mental state called constitutional psychopathic inferiority; 17 were classified as chronic alcoholics; 3 had nervous breakdowns, so-called, and 3 had epilepsy.

Our schools contain large numbers of children who exhibit various conduct disorders such as incorrigibility, truancy, petty

stealing, and children who are retarded in their grades. At the bottom of many of these conduct disorders in children some emotional or volitional conflict or other mental abnormality is often found upon close examination. It has been estimated that mental deficiency, feeble-mindedness, makes it impossible for approximately 2 per cent of the school population to carry on the work even in the lower grades.

Our police courts are congested by people brought before them because of anti-social conduct, an inability to adjust themselves to our laws and social customs. Drunkards, thieves, vagrants, prostitutes and a host of other social liabilities are mentally abnormal. Some of them are not responsible for their delinquency because of mental disorder; in others responsibility is modified by some mental abnormality. The officials of these courts are so impressed by the realization that a large proportion of these unfortunate people are mentally sick that they have many of them examined by specialists in mental disease in order to determine their responsibility before they are tried.

Every physician numbers among his patients men and women and even children who are constantly complaining of being tired, or being dizzy, of being unable to sleep, of pains and queer feelings throughout their anatomy. After repeated examinations which reveal no cause for these complaints it becomes apparent to him that they are mentally ill; and he sends them to a psychiatrist, a mental specialist.

Every day we come in contact with people whom we recognize as peculiar or eccentric, people with odd kinks of character, with uncertain tempers; people who are irritable, unreasonable, selfish, egotistical; people who are sly, untrustworthy, lacking in responsibility, unwilling to accept blame when it is obviously theirs or unable to accept their proper burden of work; people who are considered cranks; people who are emotionally unstable, who laugh and weep without much reason, who react in an exaggerated way to slight stimuli; people who are inadequate in coping with the ordinary vexatious situations of life; people who are restless, overactive, flighty, who get into trouble because of their impulsive and erratic conduct; people who are constantly fearful, worrying about their body; people who are indecisive; who lack confidence in themselves; who are unable to carry a task to completion; people with a feeling of inferiority. All of these queer or odd or different people, to whom we give little consideration, are examples of a poorly integrated personality; a very inefficient human machine; they are examples of poor mental hygiene. Many of these people can be greatly helped by mental hygiene and probably all of them would

be more nearly normal if mental hygiene had been applied to them in childhood.

Getting at the Roots of the Problem

How do these people become abnormal, some of them even insane? Why are some of them feeble-minded? Why are some of them just queer? They are not all born with incapacities. Many factors have been at work to produce these troubles.

Syphilis is responsible for some of them. Syphilis is the direct cause of general paresis, erroneously spoken of by the public as "softening of the brain." General paresis is a very serious brain disorder and leads to mental and physical decay and almost invariably to death a few years after onset. Syphilis is responsible for about 11 per cent of mentally sick people who come to our mental hospitals for the first time. Syphilis in the parents is sometimes the cause of feeble-mindedness in children.

Another 8 per cent of the mentally sick people who come to mental hospitals for the first time come because of alcohol. Prior to the Great War, the percentage of first admissions due to alcohol was as high or higher than now. During and immediately after the war it dropped to a low point of about 2 or 3 per cent, but within the last five years it has been gradually climbing to its present high mark. The use of alcohol to excess over a long period of time often causes very serious mental disorder. A common example of this is delirium tremens. Often the chronic use of alcohol results in dementia. The chronic alcoholic, socially inefficient and with but little moral stamina, is another example of the serious effect of alcohol. In these days of illicit liquor traffic, bootleggers, "blind tigers" and synthetic liquors often containing poisonous matter, the consumption of even a small amount frequently results in severe mental disorders. The superintendent of one of Connecticut's largest mental hospitals recently remarked that "the hospitals would receive more people with mental diseases due to alcohol if it were not for the fact that they were so poisoned by the alcohol that they died before they could be brought there." Alcoholism in parents is occasionally the cause of feeble-mindedness in their offspring.

A large number of other mental diseases are due to the poisoning of the nervous system by toxins which develop in the body during the course of physical diseases such as pneumonia or typhoid fever.

Heredity is responsible for the admission of another group to mental hospitals, through the transmission of defective germ plasm from a parent of unsound nervous system.

The science of eugenics has clearly demonstrated that defects or weaknesses of the nervous system can be inherited. This can be well illustrated by tracing family stock in some of the feeble-minded. It has been laid down as a rule that the offspring of two feeble-minded parents will be feeble-minded. More often, however, heredity plays its part in the production of mental disorders by the transmission of a weakness of the nervous system which results in an inability to live efficiently.

Another group of these mentally abnormal people become abnormal because of the faulty training which they are given or because of the vicious influences of the environments to which they are exposed in early life. A child inherits from its forbears a nervous system of a certain type, weak or strong, according to the dominance in it of the weakness or strength of its parents. Thus, a child possesses certain instincts and emotions which constitute his potentialities of character or latent endowments. Some children are endowed with such original nature that with but little attention and training by their parents they are able successfully to withstand the experiences of life. Many others have potentialities of character of sufficient strength for them to travel successfully through life so long as the path is of reasonable smoothness, not too steep, and the burden not to heavy; but in the presence of obstructions or an over-load they succumb to mental disorder. Still others are so poorly endowed that it is only by the most careful training and support that they have any expectation at all of progressing through life without wreck. There are a few who have so defective an endowment that they fail, no matter what training and support they are given.

It is during infancy and childhood that the most important work of mental hygiene can be done, the laying of the sound foundations of personality on a firm basis. This means the curbing of some instincts, the stimulation of others, and the modification of still others. It means training in the control of the emotions and the will and directing certain undesirable tendencies, from their very first appearence, toward socially acceptable conduct.

The mental hygiene movement, no matter how carefully it is organized and no matter how ably directed, will succeed only with the support of the public. For many centuries a veil of mystery and distaste has clouded matters of mental disease. As this veil is removed, it is inevitable that there will be gradually increasing interest in the matter of mental hygiene and increasing support will be given. Thus, mental hygiene will ultimately reduce the number of persons falling ill mentally, and, what is of no less importance, will add greatly to the mental health and happiness of all.

OPERATION OF CONNECTICUT INDOOR SWIMMING POOLS

By Charles L. Pool, B. S.
Asst. Sanitary Engineer

During the winter of 1925 the Connecticut State Department of Health increased the amount of attention given to swimming pools by making its first detailed survey of the 41 pools operating in the state. This article presents some of the observations resulting from the survey and deals with certain features of operation which are often slighted or inexpertly handled.

Supervision

The first consideration in securing excellent results in swimming pool operation is to have the pool under competent supervision. Most of the Connecticut pools are well supervised but there is room for improvement.

Successful operation does not require highly scientific application neither can it be made merely mechanical. It perhaps can best be considered as of a semi-technical nature. A knowledge of chemistry is not needed to start with, but it is advantageous to have someone who is capable of acquiring this. Good arithmetic is a necessity, but added to this must be intelligent *interest.* For these reasons a physical director, teacher, swimming instructor, superintendent of buildings or one of equal calibre who will progressively study swimming pool operation should be *given authority* at each pool.

The supervisor's duties should include care of the water in the pool and superintendence of such items as maintenance of sanitary surroundings and conduct of bathers.

Control of Water

In keeping the water in the pool in proper condition two things are necessary and the second depends on the first. First, the water must be kept clear and free from visible suspended matter, and second, it must be continuously disinfected. For the first, cleaning and refiltration or frequent refilling is the standardized practice, and for the second, chlorination in some form appears to be indispensable.

Source. Surface water supplies are usually physically unsatisfactory for use in pools without refiltration. One fill and draw pool in Connecticut uses a city surface supply with

the result that the water as observed in the pool is most unattractive. The three other pools in the state not equipped with refiltration systems are furnished with well waters and these provide the pools with clear and attractive water. The same result is obtained by filtration at most of the remaining pools which use surface water.

The Yale pool refilters a well water whose color in the pool is blue and its appearance is sparkling and unusually attractive; the common color of the refiltered surface water in the pools is green.

Renewal. For the Connecticut pools which refilter the water the entire contents are commonly emptied and renewed from one to four times yearly. Emptying is necessary for getting at the interior of the pool for a complete scouring and cleaning. As a rule, however, the contents of the pools are renewed more frequently than this would tend to indicate. Fresh water in smaller amounts is periodically added at most of the pools to make up losses from splashing out over the overflow gutters. For the four fill and draw pools the stated frequency of emptying ranges from daily to weekly.

There seems to be no demonstrable reason why this frequency of renewal needs to be increased so long as the water is maintained to meet the two above mentioned stipulations. There may be some grounds for desiring more frequent renewal from an esthetic standpoint. In all cases it is desirable to add about 50 gallons of fresh (not refiltered) water per bather.

Maintenance of Attractive Water

Some of the commonest causes of failure to keep the water in the pool in a physically attractive condition are tabulated in the following list. Mention of most of these is included in the subsequent general discussion.

Excessive filtering rate	Improper amount of washing	Lack of care in adding fresh water
Not enough filtering	Clogging in hair traps	Short circuits in pool
Clogging of the filter medium	Trouble with pumping unit	Faults in design of equipment
Bad condition of filter strainers	Leaks in suction line to pump	Excessive dirtying by bathers
Improper setting of valves in washing	Rust from piping or heater	Inadequate scum removal
Insufficient washing rate	Improper addition of chemicals	Too infrequent sediment removal

Filter Rates. The rates found in gallons per square foot per minute varied from 1.1 to 7.1 for the pressure filters. All the filters are pressure filters except those at the Burr School

in Hartford, which are of the gravity type using a rate of 0.4 gallons per square foot per minute.

Of the 25 installations where the figures are available, 17 exceed a rate of 3 gallons per square foot per minute. Three gallons is usually taken as the desirable rate for swimming pool filtration. The observations of this survey do not indicate that in general a moderate increase over this rate has resulted in waters of inferior appearance.

If the rate is not fixed by the capacity of the pump so that temporary excessive rates are possible, as when the pump has a larger capacity for back-washing or emptying the pool more quickly, the rate is regulated by the discharge valve from the filter. This is necessary in these cases to avoid rates high enough to defeat the purpose of filtering. In filling the pool from the street mains it is also necessary to see that the rated capacity of the filter is not exceeded.

In addition to limiting the rate of filtration, it is important to see that the pool contents are refiltered often enough. The usual need is for the entire contents of the pool to be passed through the filters daily. The filter installations are usually designed to turn over the pool contents in an 8, 12, 16, or 24 hours run. Sometimes the amount of filtering can be increased by lengthening the run, but many of the pools already filter continuously through the 24 hours.

Filter Sand Inspection. The practice of removing the manhole at the top of the filters and ascertaining the condition of the sand and interior of the filters varies widely. A yearly inspection is to be preferred to waiting for indications of trouble. Some recommend that this be done at intervals of two to three years.

At 11 pools the sand is cleaned or replaced yearly but at the others longer intervals ensue. Two instances were encountered where this special attention had not been given to the interior of the filters for 10 years without apparent ill effect on the clearness of the water in the pools. These cases are mentioned as something of a curiosity and attempts to equal their record are obviously not advisable.

Temporary Relief For Clogging. Violent agitation of the sand with a poker followed by thorough washing is a temporary relief for a clogged medium. Another temporary expedient is to make a solution of soda ash and pour it into the filter through the manhole so as to fill the tank. Next draw down the liquid so that the solution will fill in and come in contact with the entire filter medium. The amount of soda ash used should be about one-half pound for each square foot of filter

surface. The filter is then rested over night with the chemical in it and the following morning it is washed. Before placing in use again it is necessary to filter to waste until all traces of soda ash are gone from the effluent.

Filter Washing. In washing the filter it is important to follow minutely the manufacturers' directions. Some filters are washed in sections, and there are other special variations needing notice. Filtering to waste for a few minutes after washing is desirable until the bed is again settled. The amount of washing should not be great enough to throw out sand as shown by the sight glass.

Washing is done at intervals ranging from daily at some pools to weekly at others. At others it is not done after regular time intervals but is done when loss of head gages indicate its need. Daily washing is to be preferred as most of the operations for running the pool are best done on a daily basis, because with a regular daily routine to follow there is less likelihood of neglect at times. The amount of washing can be varied from day to day as the need suggests. Filters are washed daily at 16 pools. The largest interval between washings is two weeks for any Connecticut pool. For pools not filtered continuously for all 24 hours it is better to wash the filters at night before the matter filtered out has opportunity to "cake" on the sand surface.

Accessories. Hair traps or strainers, ahead of the filters, for removing hair and lint should be cleaned frequently to avoid clogging which reduces the amount of refiltration. The pump should be watched for air leaks, proper condition of stuffing boxes and pipe joints, and pump and motor bearing and moving surfaces must be kept oiled. Leaks in the pump suction line may permit air to be trapped in the filter above the sand. This in turn may allow incoming water to splash the sand surface and so upset the filter efficiency. Motor commutators need to be kept clean and smooth with fine sandpaper but not emery paper. Ends of brushes may need scraping to prevent sparking.

Rust Trouble. A device at the Bristol High School pool for avoiding rust troubles is a draw off at the lowest point on the circulation system. This is opened every morning and serves the purpose well. Rust troubles from the hot water heater may sometimes be avoided by changing the piping of the recirculation system so as to compel the water to pass through the heater before its passage through the filters.

Coagulation. The coagulant commonly used is alum, and in all cases is added in crystal form to a pot, which feeds a solution of it into the main leading to the filter. The purpose of

alum addition is to form a "floc", i. e., to coagulate finely divided suspended matter into larger clumps which the filter will strain out. The pots are filled at intervals varying from days to weeks and after filling no great uniformity of feed throughout the period is expected. At the majority of the pools the application of alum was found to be controlled in a very unsatisfactory fashion. Manifestations of this in a number of instances were observed where jerky alum feed allowed for a time the introduction of acid water into alkaline water in the pool. The result of this was to form a "floc" in the pool which was troublesome in settling out on the bottom. The desired place for the "floc" is between the alum pot and the filter to be caught by the latter.

The alum used in feed pots should be either potash alum or ammonium alum and not "Filter Alum" so called, or sulphate of alumina which is too soluble and does not retain its crystal form. Weights of alum used should be kept as part of operating records and it might be desirable to add a determined amount daily for the sake of uniformity. At some pools alum is added only when the water begins to visibly show its need. The amount of alum usually desirable, though it varies considerably where close checks are kept, may be taken as about one-half pound for each 10,000 gallons pumped. Alum reduces the natural alkalinity of the water and, if this goes too far, an acid water often results which stings the eyes and corrodes metals. To counteract this, a rule-of-thumb method is to add about one-half as much soda ash as alum by weight, which will restore the alkalinity. The soda ash is usually added directly to the pool, and thorough mixing with the entire pool contents should be the aim. The foregoing remarks on addition of chemicals are for rough use only, and frequent checks on the alkalinity should be made.

It is well to keep the alkalinity above 5 p. p. m. so as to avoid getting too near the acid condition. Eight to twelve is a good figure to aim at with frequent control, unless records should show a better water at some other figure. Usually alkalinities much above this (40 to 50 p. p. m. or higher) represent for Connecticut conditions a waste of soda ash and sometimes result in a loss in attractiveness of water.

Disinfection

Methods of disinfection in use for pools are chlorination, violet ray, copper sulphate, and ozone application. All of these are represented in Connecticut pools except ozonation. Copper sulphate treatment is primarily for eliminating troublesome microscopic green growths of algae. The removal of bacteria by filtering under our ordinary conditions is for all

practical purposes negligible and continuous disinfection is always necessary. Chlorination will be the only disinfection considered because it appears that the other methods are not equally satisfactory for indoor pools. With chlorination properly practiced, the value of other methods is but supplementary.

Chlorination. By chlorination is meant feeding chlorine gas by a special apparatus, calcium hypochlorite (chloride of lime) application, or addition of a chlorine compound in solution. Many of the last are on the market and the fundamental chemical in most is sodium hypochlorite. The studies of our surveys indicate that satisfactory results are obtainable with each of these three means of chlorination. The reason that chlorination is favored is because of a property peculiar to it, viz., the ability to provide constant and continuous disinfection which is readily measurable. The other methods do not do this, but merely sterilize the water passing a given point (as entering the pool), or furnish an instantaneous, as opposed to a lasting, sterilization. There is some claim of lasting effects for one of these other methods but the effects are not readily measurable as is the case with chlorination.

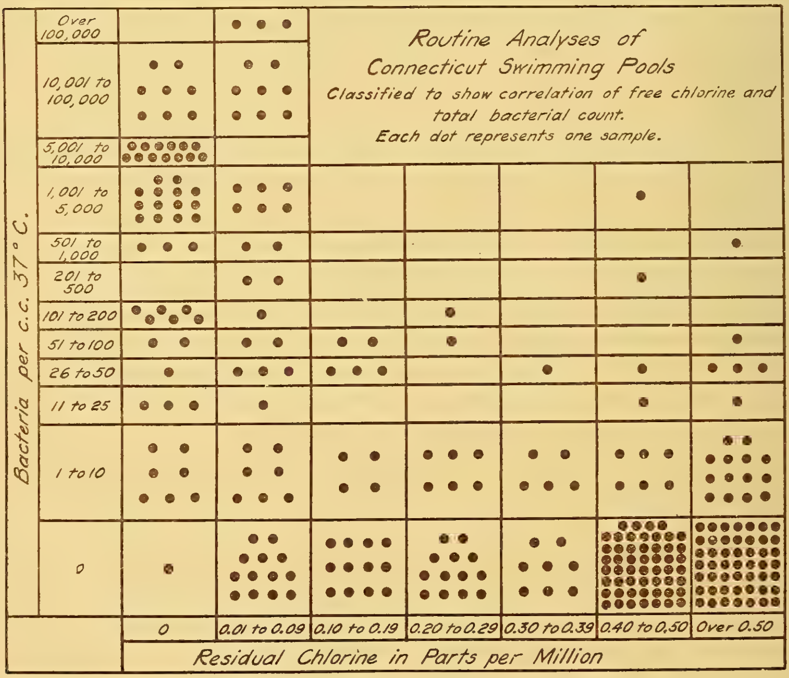


Chart Showing Relationship Between Chlorine and Bacteria in Pool Waters.

The chlorination methods can be used to saturate the water and leave free chlorine which is ready to attack freshly introduced bacteria. That is, the water in the pool can be kept at all times in a self-disinfecting condition. This, in addition to efforts to secure a low bacterial count, is an end desired. Bacterial examination will show whether this condition obtains. As the samples are ordinarily taken, this is about all that it will show, for the presence of bacteria hinges directly upon the relative absence of an adequate excess of free chlorine in the pool water. This is depicted by the chart on page 42 which represents conditions observed in routine control of Connecticut pools.

It will be noticed that individual samples of water direct from the pools as indicated by dots on the chart, tend to fall in a classification of low bacterial content when the free chlorine is high, and vice versa. It is also seen that low counts are relatively uncommon with low free chlorine, and high counts very uncommon when accompanied by a high free chlorine content in the pool. A considerable proportion of the low-count-low-chlorine samples is known to be due to acid waters, which are bactericidal but unsatisfactory for bathing. The few high-count-high-chlorine samples may be due to suspended matter which is filth interfering with effective disinfection. The principal lesson drawn from the chart is that the majority of Connecticut pools do not contain waters of satisfactory cleanliness, as evidenced by the bacterial population, unless an adequate amount of free chlorine is maintained.

Chlorine Control. To determine whether the correct excess of free chlorine is present is a simple operation involving only a comparison of the samples with a few drops of dye added, which, when the color is brought out is compared with two standard colors stored in bottles. Operators should be prepared to make this test at all pools. The result of the test should be used as a guide for increasing or decreasing the original dose of chlorine; if the color is too weak, so is the dose, and vice versa. This applies whether a chlorinator, a bottled solution, or chloride of lime is used. The amount of excess chlorine, as determined by the limiting colors should be between 0.2 and 0.5 p. p. m. at all times that the pool is in use. The lower figure is that recommended as the practical low limit for efficient sterilization, and the higher as that safely below any amount which may sting the eyes or be a nuisance in other respects. The results of operation of Connecticut pools indicate that it is practicable to meet these conditions at all of them.

In the absence of proper control by determinations of free chlorine or as a starting point for adjustment, about one pound of chloride of lime should be added daily per 50,000 gallons of water in the pool or about one-half pound of liquid chlorine per 100,000 gallons of water refiltered (equivalent to 0.6 p. p. m.) These figures given are those needed for average Connecticut conditions and may need some variation in practice.

Other Operations Influencing Sanitation

Not only is the control of the water essential in maintaining a safe and sanitary pool, but other operations are important. Many of these are obvious, such as prevention of accidents, exclusion of diseased persons, avoidance of disease transmission through the medium of unclean suits, or towels, or common drinking or hair-brushing utensils. A few other operations will be considered. Some of these relate to the desirable practice of preventing pollution from entering the pool, rather than slighting this feature and throwing a greater burden on the purification system.

Posting Of Rules. At only thirteen of the 41 pools, rules and regulations concerning the sanitary conduct of bathers were posted, and more often than not in a comparatively inconspicuous place. At all pools, however, it was declared that adequate verbal instruction is given all bathers and that a precleansing bath is required before entering the pool. In addition to verbal instructions posting is desirable for obtaining the immense value from repeated advertising, and for securing a definite enforcement. Cases of misconduct can be better handled if broken regulations are cited, rather than simply by objections raised to undesirable practices.

Costumes. Bathing suits are not commonly worn by men but are often allowed. Where suits are allowed they should be of lintless material, one-piece, and colorless or of a light color which will not run. Some pools require suits of this kind, at others the suits are furnished by the pool authorities, which is the preferable practice. At a number no control of this feature exists, and this has an adverse effect on the appearance of the water. Stockings should not be permitted. Rubber caps are desirable for preventing entrance to the pool of accumulation of hair which often becomes objectionable in amount.

Cleaning. The cleaning of the pool includes scouring and scrubbing of the bottom, sides, surrounding walks, the removal of scum from the surface of the water and the removal of sediment from the bottom of the pool. For cleaning the tile scouring powder seems to be the most satisfactory agent.

Stains are removed by a weak acid solution. At some pools oxalic acid is used. An instance was seen where the operator had a painful experience with caustic soda penetrating the skin of his hands, making them raw. The caustic soda was used for grease removal. Caustic soda is the principal ingredient of lye. Gutters should be overflowed daily for removal of floating scum. Expectoration always accompanies swimming and it is not always possible to enforce the rules requiring that it be done in the scum gutters. Only 15 of the 41 Connecticut pools overflow the gutters daily and one reported overflowing so infrequently as monthly. There is, however, rarely any visible scum on the pools inspected.

Visible scum should always be skimmed off immediately and a long handled skimmer kept available for the purpose. Another means of scum removal in use to supplement overflowing, is the cloth skimmer which stretches across the surface of the pool and is dragged from end to end slowly by two men.

Sediment is removed by an under water vacuum cleaner or by brushing it through the outlet to go out with discharging water. The vacuum cleaners are in use at 11 pools. At 30 of the 41 pools it is found necessary to remove sediment daily or oftener, in order to keep visible sediment absent at all times that the pool is in use as is proper for well run pools. With the others this should be the practice in order to achieve the same result.

The vacuum cleaner consists of a special tool on the end of a suction hose run by the circulating pump, which sucks the sediment out under water and discharges it into the sewer. Some operators prefer the vacuum, and some prefer to brush the sediment out. It would appear to be a matter of personal choice which is the better. The vacuum wastes more water unless the sediment is brushed into the sewer when brushing instead of to the filters, in which case there arises the disadvantage of taxing the filters with sediment. One operator objected to the vacuum on the grounds that its sediment removal is largely apparent rather than real, the light flocculent matter of which the sediment consists being largely spread through the water, to be temporarily invisible only to settle out again. The same objection applies to the brushing unless it is done very gently.

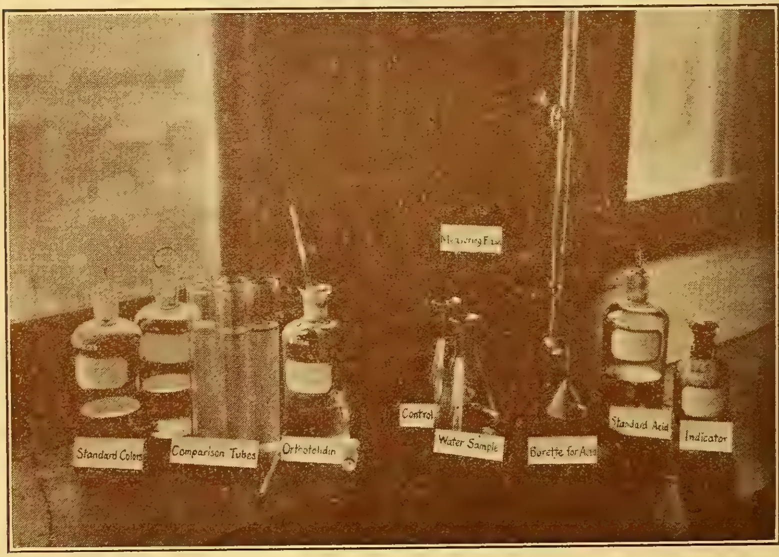
Water Temperature. The Committee on Bathing Places of the Americian Public Health Association in promulgating tentative standards for swimming pools, include: "The water in any swimming pool must not be artificially heated to a temperature above 72° F."

The average temperature maintained at half of the Con-

necticut pools is higher than 72° F. At 9 pools it was stated that the average temperature maintained is 78° or higher, the highest being 82°. At a number of Y. M. C. A. pools the temperature is kept at 72° for men and about 78° for women. The 6 Waterbury pools all maintain the water at 79° to 82°. The 2 Y. W. C. A. pools in the state keep the temperature at 78°. Operators or physical directors generally find that even a small reduction of temperature below 72° raises objection on the part of bathers. No effect on the appearance of the water was noticed for the pools maintaining the higher temperatures. Heating of the water to much above 72° introduces a factor tending toward conditions which may make for undesirable multiplication of bacteria.

Room Temperature. The tentative standards of the committee further include: "The temperature of the air at any artifically heated swimming pool must not be permitted to become more than 8° F. warmer nor more than 2° F. colder than the water in the pool at any time when the pool is in use."

Of the 41 pools surveyed, it was stated that under average conditions, the above stipulation is met by 28 pools. At 4 it is not met, at 7 the average room temperature was not known, and at 2 more the practice is to keep the room much hotter than the water because of these pools being accessory to Turk-



Testing outfit for pool operators. The materials in the group at the left are for free chlorine control and at the right are for alkalinity.

ish Baths. At one of these the stated average temperature of the room above that of the water was 35° F. and at the other this difference on the date of inspection was observed as 15°.

Testing Apparatus For Operators. The apparatus for determining both the free chlorine and alkalinity is invaluable and it is strongly urged that it be procured for each pool. The apparatus and chemicals photographically shown on page 46 can be procured complete for both determinations from chemical supply houses for about twelve dollars. A list of these and directions for their use will be furnished upon applica- to this Department.

Records And Analyses. A few brief records of operation will give data for each pool which will help in maintaining conditions at their best when the best appearing water is correlated with the conditions existing at the time. Similarly, unfavorable results can be avoided. By referring to the records, analyses, when compared with the conditions in force when the sample was taken, take on a new meaning, and become a useful instrument for improving operation. There are a few pools which show the same faults at each successive analysis, yet there is no apparent attempt to get at the bottom of the trouble.

Summary

This brief outline of swimming pool operation should make it clear that pools need careful and thoughtful individual attention, and that without a competent supervisor with authority at each pool, any attempt to maintain a safe and attractive pool must end in disappointment.

Laboratories

SUMMARY OF BUREAU ACTIVITIES FOR JANUARY, 1926

DIAGNOSTIC

	+	—	?	Total	
Typhoid	8	53	1	62	
Paratyphoid A	....	62	....	62	
Paratyphoid B	....	62	....	62	
Diphtheria	824	1496	2	2322	
Diphtheria Virulence	7	30	....	37	
Vincent's Angina	2	746	....	748	
Hemolytic Streptococci	47	701	....	748	
Tuberculosis	16	84	....	100	
Syphilis	223	1589	197	2009	
Gonorrhoea	30	84	....	114	
Pneumonia	....	3	....	3	
Typings for Type I	2	....	....	2	
Typings for Type III	1	....	....	1	
Typings for Type IV	6	....	....	6	
Rabies	2	7	....	9	
Feces Examinations					
Ova	....	3	....	3	
Dysentery	....	1	....	1	
Special specimens	2	8	....	10	6299

CHEMICAL AND BACTERIOLOGICAL

Oysters	8	
Milk samples	223	
Water samples	279	
Sewage samples	31	
Clinical thermometers examined	4	545
		6844

Examinations for January 1926 and 1925

The total number of examinations for the month of January, 1926, is 6,844 as compared with a total of 7,889 for January, 1925. This decrease is due chiefly to the fewer number of examinations of cultures from diphtheria carriers and to fewer thermometer examinations. An increase is shown in the number of nearly every other kind of specimen. There were 400 more tests made for syphilis than in January, 1925, and twice as many as in January, 1922.

Vital Statistics

MONTH OF DECEMBER, 1925

Births

Reports were received of 2,234 births as compared with 2,496 in 1924; a decrease of 262. The birth rate is 17.5 per 1,000 population and this is the lowest rate which has appeared in the last six years. Late reports will undoubtedly increase the total. When a corresponding article was written a year ago, the births at the time numbered 2,402. This total has been increased to 2,496 or an increase of 94, which, in round numbers, is an increase of 4 per cent. If we may expect the same increase to hold, one year from now the births for December will be 2,323. This total, however, is by no means a final one. Births for December, 1925, will continue to be filed, **late,** for a number of years; how many years late, no one can say. During the year a birth certificate was filed for an individual born in 1885. Perhaps he or she needed a passport and discovered the value of the certificate.

There were 17 towns in which the number of births reported for 1925 exceeded the number reported in 1924. Of these, however, only 4 reported increases of 10 or more. Bristol 18±10; Greenwich 11±9; New Haven 19±24; New London 18±11. These figures are to be interpreted as follows, using Bristol for illustration: The increase is 18 compared with an increase of 10 due to chance. Similarly, Greenwich experienced an increase of 11, when 9 might have been expected to arise from pure chance. As any **significant** increase (or decrease, for that matter) must be at least three times the increase, or decrease, due to pure chance, it is apparent that none of the above increases is of any significance from a statistical point of view.

Reports of 89 stillbirths were received as compared with 83 in 1924. The question may well be asked: with a **decreased** number of births and an **increased** number of stillbirths, is there any significance? The 89 stillbirths are subject to a chance fluctuation of about 9, or 10 per cent of 89. The stillbirth **rate** will be subject to the same percentage fluctuation. To find the stillbirth rate divide the number of stillbirths by the **total** number of births. The rate will be found to be 38.3±3.8 per 1,000 births. In 1924 the corresponding figures were 33.4±3.7. The difference between these rates is 4.9±5.0; therefore the increase in the stillbirth rate is of no significance.

Deaths

The reported deaths show an increase over 1924. In 1925 1,552 were recorded as compared with 1,463 in 1924. This is an increase of 89 but as an increase of about 55 might have been expected to arise from the operation of pure chance the increase is not abnormal. It means, however, that the rate for the year will be somewhat higher than last year in as much as the accumulated deaths for 11 months of 1925 were greater than the corresponding total for 1924. No attempt will be made in this issue to give a recapitulation of the year. The next bulletin will contain a Provisional Summary of 1925 and the preceding 4 years.

Below is given a comparison of 1925 and 1924 with respect to certain diseases.

Cause of Death	1925	1924	Increase	Decrease
Diseases of the Heart	267±16	213±15	54±22	....
Epidemic Encephalitis	3± 2	4± 2	....	1± 3
Pneumonia Undefined	....	1± 1	....	1± 1
Typhoid Fever	6± 2	2± 1	4± 3	....
Measles	12± 3	....	12± 3	....
Scarlet Fever	4± 2	2± 1	2± 2	....
Whooping Cough	6± 2	6± 2	....	....
Diphtheria	15± 4	13± 4	2± 5	....
Influenza	35± 6	43± 7	....	8± 9
Tuberculosis, Pulmonary	75± 9	85± 9	....	10±13
Tuberculosis, Other Forms	15± 4	12± 3	3± 5	....
Cancer	141±12	129±11	12±16	....
Cerebrospinal Meningitis	1± 1	....	1± 1	....
Poliomyelitis	1± 1	....	1± 1	....
Pneumonia, Lobar	94±10	64± 8	30±13	....
Pneumonia, Broncho	83± 9	72± 8	11±12	....
Diarrhoea & Enteritis (Under 2)	21± 5	11± 3	10± 6	....
Puerperal Diseases	9± 3	9± 3	....	....
Accident	92±10	96±10	....	4±14
Suicide	15± 4	10± 3	5± 5	....
Homicide	2± 1	4± 2	....	2± 2
Other Causes	655±26	687±26	....	32±37
Totals	1,552±39	1,463±38	147	58

Glancing down the columns of increase and decrease two diseases especially catch the eye and, in estimating, the chance dispersion is the determining factor. The diseases are, diseases of the heart and lobar pneumonia. These diseases give increases and the increases are **approximately** three times their dispersions. For this reason they may be considered as of significance. There are no other changes of significance.

The month witnessed the customary increase of automobile accident deaths, there being 32 such deaths as compared with 27 in 1924; increase of 5. An increase of about 8 might have been expected from pure chance variation.

The infant mortality is up a little, meaning that the rate will in all probability prove higher for 1925 than in 1924.

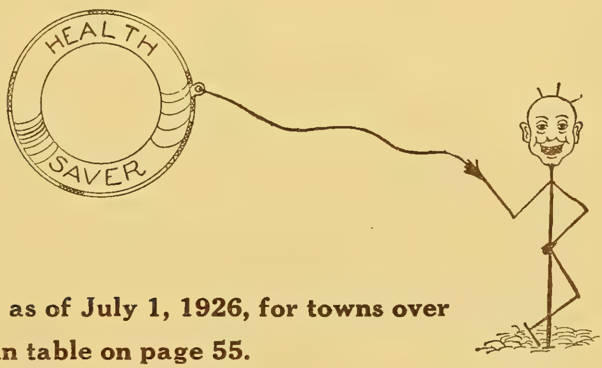
Marriages

Records of 602 marriages were received, a decrease of 130 compared with 732 reported in 1924. This gives the lowest marriage rate, 4.7, which has appeared in the last six years.

For Six Years—December, 1925

CONNECTICUT	1920	1921	1922	1923	1924	1925
BIRTHS	2654	2764	2423	2352	2496	2234
Birth Rate	22.9	23.3	20.1	19.1	19.9	17.5
MARRIAGES	806	715	733	796	732	602
Marriage Rate	6.9	6.0	6.1	6.5	5.8	4.7
DEATHS	1446	1425	1618	1396	1463	1552
Death Rate	12.5	12.0	13.4	11.4	11.7	12.2
COMMUNICABLE DIS.* DEATHS	177	139	189	170	154	155
Per Cent to Total Deaths	12.2	9.8	11.7	12.2	10.5	10.0
DEATHS UNDER 1 YEAR	221	180	211	168	159	178
Rate Per 1,000 Births	77.5	63.2	80.9	65.5	60.1	72.4

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.



Populations as of July 1, 1926, for towns over 5,000 appear in table on page 55.

Births, Marriages and Deaths

DECEMBER, 1925 Statistics	Population Est. as of July 1, 1925 Based on U. S. Census	TOTALS: Births	Stillbirths	Marriages	Deaths	DEATH RATES: All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	AGE GROUPS: Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,529,688	2234	89	602	1552	12.2	0.6	72.4	178	62	623
Ansonia	19,034	23	1	6	15	9.5	1.3	79.7	2	3	3
Branford	6,954	9	....	2	4	6.9	....	....	....	....	4
Bridgeport	166,644	244	17	57	156	11.2	0.6	65.9	18	11	45
Bristol	24,621	59	3	11	24	11.7	....	158.9	8	1	4
Danbury	21,931	27	2	6	31	17.0	0.5	115.8	5	3	12
Derby	12,500	25	2	3	22	21.1	....	81.6	3	1	7
East Hartford	13,616	8	1	6	12	10.6	0.9	80.5	1	1	4
Enfield	12,834	15	2	7	9	8.4	....	81.1	2	1	5
Fairfield	14,490	12	....	2	17	14.1	0.8	....	....	....	7
Glastonbury	6,042	8	....	1	6	11.9	1.9	....	....	....	5
Greenwich	25,207	47	1	38	20	9.5	0.5	100.8	4	....	8
Groton	10,764	9	1	5	4	4.5	1.1	....	....	....	1
Hamden	10,150	17	....	....	7	8.3	1.2	....	....	....	3
Hartford	160,199	304	11	69	159	11.9	0.5	56.3	19	6	49
Killingly	9,051	8	....	3	9	11.9	....	61.2	1	....	4
Manchester	21,018	30	1	4	23	13.1	0.6	52.5	2	....	11
Meriden	36,251	71	4	11	36	11.9	0.3	17.2	1	3	12
Middletown	22,649	33	3	4	39	20.7	1.1	39.8	2	1	19
Milford	13,473	....	....	....	11	....	....	....	....	....	7
Naugatuck	16,350	8	....	4	2	1.5	0.7	....	....	1	1
New Britain	67,896	125	4	21	51	9.0	0.2	94.7	13	5	10
New Haven	178,735	313	9	92	208	13.9	0.9	47.7	16	4	80
New London	29,003	72	1	28	25	10.3	0.4	61.8	4	....	13
Norwalk	29,596	48	4	6	36	14.6	1.2	67.6	4	....	20
Norwich	30,425	47	3	9	38	14.9	0.4	43.6	3	2	11
Plainfield	8,570	16	....	2	5	7.0	....	....	....	....	4
Plymouth	6,349	7	....	1	....	....	....	....	....	....	....
Putnam	8,990	14	1	9	17	22.6	....	52.4	1	1	8
Seymour	7,911	7	....	3	4	6.1	....	....	....	....	3
Shelton	11,134	8	1	7	16	17.2	1.1	491.2	7	....	1
Southington	9,529	17	1	1	4	5.0	....	....	....	....	3
Stafford	5,457	15	....	1	6	13.2	....	....	....	....	3
Stamford	46,218	73	7	26	46	11.9	1.0	61.1	6	1	19
Stonington	10,819	12	....	3	10	11.1	....	....	....	....	9
Stratford	16,085	10	....	6	13	9.6	....	....	....	....	8
Thompson	5,196	8	....	3	5	11.5	....	190.4	2	....	1
Torrington	24,492	29	....	4	15	7.3	....	67.6	3	1	7
Vernon	8,822	8	....	3	7	9.5	....	....	....	....	7
Wallingford	12,483	10	....	1	15	14.4	....	64.5	1	2	9
Waterbury	102,134	163	4	32	84	9.8	0.6	59.3	12	7	20
Watertown	7,192	4	....	3	2	3.3	....	....	....	....	1
West Hartford	11,146	11	....	2	20	21.5	....	753.9	12	1	6
West Haven	17,834	21	....	6	19	12.8	0.6	58.7	2	1	8
Westport	5,597	4	....	2	6	12.9	....	....	....	....	4
Winchester	9,129	17	1	5	20	26.3	....	53.3	1	2	6
Windham	14,368	18	....	16	13	10.9	....	69.3	2	....	4
Windsor	6,436	5	....	1	11	20.5	1.8	....	....	....	5
Towns under 5,000	209,346	195	4	70	250	13.9	0.6	82.6	21	3	142

for the month of December, 1925

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
267	3	......	6	12	4	6	15	35	75	15	141	1	1	94	83	21	9	92	15	2	506	242
1	......	......	......	1	......	1	......	2	2	......	......	......	......	......	......	1	......	1	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	1	1
31	......	......	......	4	2	2	8	6	7	......	19	......	......	6	8	......	1	6	1	1	57	20
4	......	......	......	......	......	......	......	......	......	......	1	......	......	1	1	2	......	4	......	......	8	......
5	1	......	1	......	......	......	......	......	1	......	3	1	......	1	......	......	......	......	......	......	10	3
4	......	......	......	......	......	......	......	......	......	......	......	......	......	1	1	......	1	5	......	......	9	7
1	......	......	......	......	......	......	......	......	1	......	......	......	......	......	2	......	......	3	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	1	......	......	......	......	2	......
3	......	......	......	......	......	......	......	......	2	......	3	......	......	......	......	......	......	......	......	......	......	2
......	......	......	......	......	......	......	......	......	1	1	......	......	......	......	......	......	......	......	......	......	......	1
2	......	......	......	......	......	......	......	......	......	......	2	......	......	......	1	1	......	1	......	......	6	......
1	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	1	2	1	......	......	......	......	......	......	......	......	......	......	1
27	......	......	2	......	1	......	......	4	4	1	18	......	......	8	13	1	3	15	2	......	86	47
1	......	......	......	......	......	......	......	......	......	......	1	......	......	2	......	......	......	......	......	......	......	1
2	......	......	......	......	......	......	......	2	1	......	4	......	1	1	......	......	......	4	......	......	7	4
8	......	......	......	......	......	......	......	1	1	1	3	......	......	3	2	......	1	3	......	......	12	5
6	......	......	......	......	......	1	......	......	1	......	2	......	......	5	3	......	......	1	......	......	28	22
3	......	......	......	......	......	......	......	......	......	......	1	......	......	3	......	......	......	......	......	......	4	1
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
5	1	......	......	......	......	......	1	......	1	1	2	......	......	7	5	4	......	2	......	......	15	2
38	......	......	1	......	......	......	......	3	10	3	24	......	......	13	10	2	1	13	2	......	84	28
8	......	......	......	......	......	......	......	3	......	......	......	......	......	1	2	1	......	3	......	......	8	5
6	......	......	......	......	......	......	1	1	4	......	2	......	......	2	1	......	......	2	......	......	10	3
6	......	......	......	......	......	......	3	......	4	......	6	......	......	3	1	......	......	1	......	......	17	6
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
3	......	......	......	......	......	......	......	......	......	......	......	......	......	2	......	......	......	2	1	......	8	4
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	1	......	......	......	......	......	......	......
1	......	......	......	4	......	......	......	1	6	......	......	......	......	1	1	1	......	......	......	......	5	5
......	......	......	......	......	......	......	......	......	......	......	2	......	......	1	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	1	......	......	......	......	......	1	......	......	......	......	......	......	1	2
8	......	......	......	......	1	......	1	1	1	......	5	......	......	1	3	......	......	7	1	......	20	3
2	......	......	......	......	......	......	......	1	......	......	2	......	......	......	......	......	......	......	......	......	......	......
5	......	......	......	......	......	......	......	......	......	......	2	......	......	1	......	......	......	1	1	......	......	......
1	......	......	......	......	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	1	......
1	......	......	......	......	......	1	......	......	......	1	1	......	......	2	......	1	......	......	1	......	2	......
1	......	......	......	......	......	......	......	1	......	......	2	......	......	1	1	......	......	......	......	......	......	......
3	......	......	......	......	......	......	1	......	......	......	......	......	......	1	......	......	......	......	1	......	4	......
9	1	......	2	3	......	......	......	2	4	1	5	......	......	4	3	1	2	7	1	......	33	8
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	1	......	......	......	......	......	......	3	4	......	......	......	......	14	3
3	......	......	......	......	......	......	......	1	2	......	1	......	......	1	......	......	......	......	......	1	3	3
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......
4	......	......	......	......	......	......	......	......	......	......	2	......	......	3	......	......	......	1	......	......	10	6
1	......	......	......	......	......	......	......	......	......	......	1	......	......	1	3	......	......	......	......	......	4	1
4	......	......	......	......	......	......	......	......	......	......	1	......	......	1	1	......	......	1	......	......	......	......
48	......	......	......	......	......	1	......	4	20	4	23	......	......	15	15	1	......	8	4	......	36	48

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF JANUARY, 1926

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of January, 1926, with the corresponding month for the years 1921, 1922, 1923, 1924 and 1925.

DISEASE	Average 1921-1925 for January	Mean 1921-1925 for January	1921	1922	1923	1924	1925	1926
Cerebrospinal Meningitis	5	5	6	4	8	1	5	......
Diphtheria	325	299	435	369	299	274	246	185
Encephalitis Epidemic	3	3	3	......	2	3	6	4
Measles	824	571	571	442	2,066	809	231	2,600
Poliomyelitis	1	1	2	1	1	1	2	......
Scarlet Fever	607	630	630	396	459	741	810	338
Smallpox	20	4	1	95	4	2	......	......
Typhoid Fever	9	8	8	8	7	8	15	12
Tuberculosis Pulmonary	137	121	189	90	119	167	121	123
Whooping Cough	328	313	447	224	350	313	306	332

A comparison of the morbidity on these diseases for the two preceding months, November and December with the January record is as follows:

	November	December	January
Cerebrospinal Meningitis	1	4	......
Diphtheria	173	185	185
Encephalitis Epidemic	4	5	4
Measles	261	787	2,600
Poliomyelitis	3	2	......
Scarlet Fever	185	276	338
Smallpox	......	......	......
Typhoid Fever	17	30	12
Tuberculosis (pulmonary)	103	85	123
Whooping Cough	235	224	332

Cases of Other Reportable Diseases

Chickenpox	621
Conjunctivitis Infectious	45
Ophthalmia Neonatorum	1
Encephalitis Epidemic	4
German Measles	35
Influenza	38
Mumps	58
Septic Sore Throat	12
Gonorrhoea	90
Syphilis	101
Chancroid	1
Total	1,006

Cases of Occupational Diseases

Dermatitis	2
Lead Poisoning	2
Total	4

Cases of Certain Reportable Diseases

JANUARY, 1926	Population Est. as of July 1, 1926	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Broncho-Pneumonia	Other Com. Diseases
State Total	1,558,996	12	2600	338	332	185			123	18	249	187	1006
NEW HAVEN CO.	**467,392**	**4**	**489**	**116**	**59**	**61**			**36**	**6**	**70**	**49**	**302**
New Haven	181,823	1	155	27	38	1			15	3	33	13	183
Waterbury	104,047	1	102	25		15			14		14	11	18
Meriden (city and town)	36,529	1	58	17	7	3			1		12	8	14
Ansonia	19,291		11	3		5			2	1			4
West Haven	18,334		10	8	1						1	2	3
Naugatuck	16,589								1				
Wallingford (town and boro)	12,571		1	2		4							3
Milford	14,073		107	16		1					3	3	13
Derby	12,732		4	2	2	1					1	2	
Hamden	10,434	1	7	12	5	22				2	1	2	33
Branford (town and boro)	7,014		5			7			1		3	1	7
Seymour	8,116												1
Towns under 5,000	25,839		29	4	6	2			2		2	7	23
FAIRFIELD CO.	**371,561**	**3**	**1115**	**96**	**57**	**41**			**19**	**2**	**61**	**45**	**139**
Bridgeport	170,717		473	45	32	20			12		36	29	36
Stamford (city and town)	47,373		254	14	1	17			1		5	3	18
Norwalk	29,859		48	1		1			1		4	4	22
Danbury (city and town)	21,931	3	1	2					1		1		14
Greenwich (town and boro)	25,790		61	9		1				1	9	3	17
Stratford	16,768		52	3	1				3				6
Fairfield	15,041		150	9					1	1	1	2	13
Shelton	11,398												
Westport	5,685		40	6		1							1
Towns under 5,000	26,999		36	7	23	1					5	4	12
HARTFORD CO.	**393,501**	**4**	**483**	**69**	**126**	**59**			**51**	**10**	**82**	**80**	**394**
Hartford	164,288	2	160	19	25	24			15	3	30	29	156
New Britain	69,482		5	16	4	6			12	5	12	16	26
Bristol (city and town)	25,354		9		48	11			18		13	9	44
Manchester	21,505	1	79	12	6	6					2	2	16
Enfield	13,039		2		2				1				9
East Hartford	13,950		12	2	3	2			1	1		5	5
Southington(town and boro)	9,727		3	1		1					2	1	2
West Hartford	11,562	1	39	2	11	3					8	5	116
Windsor	6,584		60			3			2		3	1	4
Glastonbury	6,124		24	5	7				1			1	2
Wethersfield	5,141		58	7	3	2							1
Towns under 5,000	46,805		32	5	17	1			1	1	12	11	13
NEW LONDON CO.	**113,554**		**399**	**36**	**25**	**7**			**4**		**10**	**5**	**43**
Norwich (city and town)	30,576		176	6	1	1			1		2	3	8
New London	29,566		26	17	1	1			3		4	1	12
Stonington (town and boro)	10,930		2	1	9	3							2
Groton (town and boro)	11,045		3	7							2		8
Towns under 5,000	31,437		192	5	14	2					2	1	13
LITCHFIELD CO.	**80,282**	**1**	**5**	**3**		**4**					**7**	**2**	**6**
Torrington (town and boro)	24,929										1		
Winchester (inc. Winsted)	9,074												1
Plymouth	6,364		1										
Watertown	7,359	1		2		3							
Towns under 5,000	32,556		4	1		1					6	2	5
WINDHAM CO.	**55,799**		**27**	**12**	**5**	**5**			**4**		**7**	**1**	**55**
Windham (inc. Willimantic)	14,391		4	2	2	3			3		4		8
Putnam (city and town)	9,105		2		2						1		4
Plainfield	8,694		5			1			1				1
Killingly (inc. Danielson)	9,218		5	2	1						2	1	
Thompson	5,203		6	4									13
Towns under 5,000	9,188		5	4		1							29
MIDDLESEX CO.	**49,185**		**39**	**6**	**48**	**4**			**7**		**4**	**2**	**64**
Middletown (city and town)	22,891		34	1	17				2				8
Middletown State Hospital													1
Towns under 5,000	26,294		5	5	31	4			5		4	2	55
TOLLAND CO.	**27,722**		**43**		**12**	**4**			**2**		**8**	**3**	**3**
Vernon (inc. Rockville)	8,787		9						2		2		2
Stafford (town and boro)	5,454		25			2					2	1	
Towns under 5.000	13,481		9		12	2					4	2	1

HEALTH MEETINGS

STATE—NEW ENGLAND—NATIONAL

Connecticut Public Health Association held its winter meeting at Bridgeport, Connecticut, with a Clinic on Diagnosis and a discussion of Scarlet Fever, as well as an address on "The Preventable Diseases of Adult Life."

New England Health Institute which was to have been held at Concord, New Hampshire, May 24-28, 1926, has been postponed until September 27 to October 1. This is the fourth Institute or School of Public Health for adults.

American Health Congress, plans for which have been in the making for a full year, will be held at Atlantic City, New Jersey, May 17-22, 1926.

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"For a Clean State and a Healthy People"

Vol. 40 MARCH, 1926 No. 3

This Issue Contains

STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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CONNECTICUT
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MORTALITY IN CONNECTICUT 1921-1925
By William C. Welling

PROVISIONAL SUMMARY

All rates per 100,000 population unless otherwise stated

Disease	Mean Rate	Dispersion	Trend	Chance Dispersion	Lexian Ratio	Lexian Ratio ex trend
All causes	11.7± .1*	0.3± .1	—.03±.09	± .1	3.3	3.0
Infant Mortality	73.6±1.4**	3.0± .9	—.67± .9	±1.6	1.9	1.7
Typhoid Fever	2.8± .2	.4± .1	**—.23± .04**	± .14	2.5	1.0
Measles	5.3±1.5	3.3±1.0	—.58±1.0	± .6	5.5	5.5
Scarlet Fever	4.4± .6	1.4± .4	**—.89± .2**	± .6	2.3	1.0
Whooping Cough	7.3± .8	1.7± .5	—.53± .47	± .7	2.4	2.1
Diphtheria	11.5± .7	1.6± .5	**—.96± .3**	± .9	1.8	1.1
Influenza	26.6±4.1	9±2.8	+.88±3.0	±1.3	7.4	7.2
Tuberculosis, pulmonary	76.1±3.3	7.3±2.3	**—5.00± .6**	±2.2	3.3	0.9
Tuberculosis other forms	10.8± .4	.8± .2	—.15± .3	± .8	1.0	1.0
Pneumonia	111.0±5.3	11.7±3.6	+.12±3.9	±2.7	4.0	4.0
Cancer	102.4±2.0	4.2±1.3	**+2.26± .9**	±2.5	1.7	1.1
Diarrhoea & Enteritis, (Under 2)	24.3±2.6	5.7±1.8	**—3.9± .5**	±1.3	4.4	1.3
Accidents	72.5±1.1	2.5± .8	**+1.7± .2**	±2.2	1.1	.3

*per 1,000 population.
per 1,000 living births. **Trends in bold face type are significant.

All Causes

The crude death rate per 1,000 population for 1925 was 11.6, an increase of 0.3 over the rate of 11.3 in 1924. The rate in 1924 is the lowest ever recorded in the state. The increase experienced in 1925 is of possible statistical significance, as an increase of about .1 might have been expected over 1924. The table given above shows that the mean rate over the period 1921-1925 is 11.7. The dispersion is small. There is an insignificant trend downward. The series is hypernormal, as the Lexian ratio is 3.3 and is not affected by the exclusion of the trend.

Infant Mortality

The infant mortality went up 5.1 over 1924. However, the rate for 1925, 73.6, is exactly the mean rate over the last 5 years. There is some dispersion or scattering about the mean, but as this rate is subject to considerable fluctuation scattering must be expected. The trend is negligible and worthless. There is a fairly small Lexian ratio, showing that the series is roughly a normal series.

Typhoid Fever

The state again experienced a year of relatively few typhoid deaths, these being 39 as compared with 38 in 1924. The increase of 1 is of course negligible. The rate of 2.5 per 100,000 population remained the same in both years. The mean rate over the period under discussion is 2.8±.2 with very little dispersion, being only .4±.1. The trend is downward by .23±.04. This is a very small trend value but the rate is low. Furthermore, this trend, though small, is of great statistical significance, being about six times its standard deviation. The Lexian ratio is 2.5 indicating that the series has a scatter of 2.5 times what might be expected to arise from pure chance. But exclude the trend and the Lexian ratio becomes 1.0, indicating normality.

Measles

Measles decreased in actual numbers by 8, from 45 in 1924 to 37 in 1925. The rate also decreased from 2.9 to 2.4. The mean rate is 5.3±1.5. The rather large standard deviation of this mean is a warning and indicates that if other periods of 5 years were taken in which the conditions were essentially identical, two thirds the number of these means might be expected to differ from the above by not more than 1.5. There is also considerable scatter which in itself has no small standard deviation. The trend proves to be untrustworthy and there is a large Lexian ratio whether or not the trend be included. This is evidently a series of values from which any deduction would be dangerous.

Scarlet Fever

Scarlet fever deaths have been decreasing during the immediate past. During 1925 there were 44 such deaths as compared with 60 in 1924, a decrease of 16 and a reduction in rates from 4.0 in 1924 to 2.8 in 1925. The mean rate is 4.4±.6 with a scattering of 1.4±.4. The trend is—.89±.2. The important fact to look out for in a trend is the value of its standard deviation. The trend of—.89±.2 is significant. The rate is coming down each year by less than 1 unit per year,

but the standard deviation indicates that if no untoward circumstances intervene this rate will be maintained. Analysis of this sort, which is a cross section of the past, must be made with the understanding that an arithmetic trend downward cannot be maintained indefinitely. The zero value must eventually be reached. In fact, if the present rate of decrease of scarlet fever is maintained, the rate will be just a trifle below zero in 1928. Such a statement as this can have no value—that in 1928 there will be no scarlet fever. For next year there may be a small difference in the trend and at any rate there will be a different terminal year—and so on each year. Each year a terminal year will be indicated but it will in all probability never be attained. There will very likely be some residual scarlet fever—the disease will reach an irreducible minimum.

Whooping Cough

The deaths and rates for whooping cough rose in 1925 as compared with 1924. Deaths 111 and 78; rates 7.2 and 5.2. This disease is nomadic in its nature. The figures for the mean, standard deviation, trend and Lexian ratios show that no conclusion should be based on the experience of the last five years.

Diphtheria

The diphtheria deaths numbered 128 in 1925, a saving of 40 with reference to the 168 deaths from this disease in 1924. The rate of 8.4 per 100,000 is the lowest on record as far back as 1885, in which year the rate was 73.0 and applied to the population of 1925 would have meant 1,117 deaths. Here is a saving of 949 lives.

Over the last five years there has been a distinct improvement. The trend is downward $.93 \pm .3$ per year and is significant. There is a small Lexian ration which nearly approaches unity, indicating normality, when the trend is included.

Influenza

The rate for influenza increased in 1925 as did the number of such deaths.This disease is characterized by an erratic course. The mean is not particularly stable, there is a rather large standard deviation and decidedly large Lexian ratios.

Pulmonary Tuberculosis

The number of deaths from pulmonary tuberculosis has in the main been decreasing each year, with a similar change in the death rate. The rate of 65.0 is the lowest on record. The mean rate is 76.1 ± 3.3 for the last five years. The scatter or standard deviation is 7.3 ± 2.3. The trend is the most sig-

nificant figure, being —5.00±.6 which is worthy of particular notice. It is more than 8 times its standard deviation and therefore very reliable. The Lexian ratio is rather large but this disappears when the trend is excluded.

Tuberculosis, Other Forms

The sample of five years is too small to warrant any definite conclusion in the absence of any very decided movement within the series itself. The Lexian ratios indicate that the sequence is about normal as it stands and no feature stands out.

Pneumonia, All Forms

Pneumonia can generally be counted upon to give a rate over 100 per 100,000. It **should** be well under 100. But not until the public is less careless, to use an awkward expression, will the rates be under 100. As might be expected from inspection of the rates there is no apparent fact of great significance. Except, of course, that the rates are very high. The mean rate has a rather large dispersion. And the standard deviation itself has not a small standard deviation. There is no trend of any value whatsoever. The Lexian ratios are large. The very embodiment of carelessness!

Cancer

The rate for cancer is apparently increasing. It rose 4.4 per 100,000 in 1925 over 1924. The trend is upward by 2.26±.9 per year. This trend is quite probably significant. The Lexian ratio is 1.7 with the trend included. This is not a very high ratio. The series is not far from normal which throws a shadow of doubt on the significance of the trend. When the trend is eliminated the Lexian ratio is 1.1 which is apparently a normal series. Eliminate the trend, therefore, and cancer becomes normal. The trend can only be eliminated by the cooperation of those suffering with cancer or suspected cancer. Early diagnosis, early attendance upon the family physician will do much toward the elimination of the trend. There is much encouragement in the fact that the series is normal when the trend is eliminated.

Diarrhoea and Enteritis Under Two

The rates for this heading have been steadily decreasing. At first it was very rapid and it is but natural to expect the rate of decrease to slow up. The rates in this analysis are for the whole population; at some later date the analysis will be made using the population actually under two years of age. As the rates now stand the mean is 24.3±2.6; the standard deviation 5.7±1.8. The trend is—3.9±.5 and very significant. The Lexian ratio is rather high, 4.4 but most of it is eliminated when the trend is taken out. The Lexian ratio then becomes 1.3.

Accidents

Deaths from accidents have been increasing no doubt due to the increase in deaths from automobile accidents. The trend is upward at the rate of $1.7 \pm .2$ per year, which is significant. The Lexian ratios are extremely interesting. Even including the trend the Lexian ratio is nearly unity, showing the series is normal as is to be expected. Accidents occur by chance—very few willingly go out of their way to meet with accident. And if the trend is eliminated the Lexian ratio becomes .3. This is less than unity. If the reckless are eliminated—and the reckless may account for the upward trend—accidental deaths do not occur by chance! Caution asserts itself, and the series is subnormal.

If the rates for automobile accidents be figured the mean rate will be 18.2 ± 1.0 with standard deviation of $2.3 \pm .7$. The trend is upward $1.39 \pm .35$ per year, or very significant. The Lexian ratio is exactly 2 and excluding the trend it is exactly 1.0. These figures tell much. Some drivers, by reckless driving force up the Lexian ratio and make the upward trend. Eliminate the trend (and incidentally the careless drivers) and the series is exactly normal.

With the automobile accidents excluded the deaths due to other accidents give a series of uncertain values. The trend is down, but not trustworthy.

What Might Have Been in Four Diseases

	Rates		Savings in deaths,
	1885	1925	1925 over 1885
Diphtheria	73.0	8.4	988
Typhoid fever	33.2	2.5	480
Tuberculosis, All Forms	244.0	75.5	2,578
Scarlet fever	41.8	2.8	597
			4,643

If the rates of 1885 had held in 1925 there would have been 4,643 more deaths or the total deaths would have been 22,315. The death rate would have been 14.6. This does not include infant mortality or other diseases. These four diseases serve to show forcibly what might have happened.

PROVISIONAL SUMMARY FOR 5 YEARS, DEATHS AND DEATH RATES IN CONNECTICUT 1921-1925, AS OF JANUARY 31, 1926

All rates per 100,000 population, unless otherwise stated.

Year		Total Deaths	Death rate, per 1,000 population	Deaths under 1	Rate per 1,000 births	Typhoid fever	Measles	Scarlet fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis Pulmonary	Tuberculosis Other forms	Pneumonia All forms	Cancer	Poliomyelitis	Cerebrospinal Meningitis	Diarrhoea & Enteritis (under 2)	Puerperal state	Suicide	Accident
1921	Deaths	16,168	11.4	2,489	72.7	49	43	102	137	176	193	1,186	172	1,382	1,380	25	47	473	178	203	983
	Rates					3.4	3.0	7.1	9.6	12.4	13.6	83.5	12.1	97.2	97.1	1.7	3.3	33.3	5.2*	14.3	69.2
1922	Deaths	17,437	12.0	2,410	77.0	43	109	62	83	186	518	1,202	140	1,764	1,510	16	45	416	176	170	1,025
	Rates					3.0	7.5	4.3	5.7	12.8	35.8	83.0	9.7	121.8	104.3	1.1	3.1	28.7	5.3*	11.7	70.8
1923	Deaths	17,733	12.0	2,350	76.3	38	160	53	133	187	562	1,166	152	1,878	1,449	10	45	314	183	196	1,057
	Rates					2.6	10.8	3.6	9.0	12.7	38.1	79.0	10.3	127.3	98.2	0.7	3.1	21.3	5.9*	13.3	71.6
1924	Deaths	16,975	11.3	2,176	68.5	38	45	60	78	168	288	1,053	171	1,509	1,565	23	23	295	182	156	1,128
	Rates					2.5	2.9	4.0	5.2	11.2	19.2	70.1	11.4	100.4	104.1	1.5	1.5	19.6	5.7*	10.3	75.1
1925	Deaths	17,672	11.6	2,177	73.6	39	37	44	111	128	403	995	160	1,661	1,661	20	19	284	142	188	1,157
	Rates					2.5	2.4	2.8	7.2	8.4	26.3	65.0	10.5	108.5	108.5	1.3	1.2	18.5	4.9*	12.2	75.6

*per 1,000 living births

	Births	Populations
1921	34,220	1,420,576
1922	31,314	1,447,838
1923	30,795	1,475,122
1924	31,755	1,502,405
1925	29,582	1,529,688

APPROVED LABORATORIES

Because requests are frequently received for lists of the approved laboratories of the State Department of Health, such a list is published here for the convenience of health officers and physicians. There are at present 13 laboratories on the approved list for making bacteriological determinations as provided under the regulations of the Sanitary Code.

Certificate
of
Approved Laboratory

This is to certify that the Bacteriological Laboratory conducted by

____

located at ____________________ *in* ________________, *Connecticut, has been registered with the State Department of Health as an approved laboratory pursuant to the provisions of Regulation 40, Chapter I of the Sanitary Code of Connecticut.*

This approval expires December 31, 192 , and is revocable at any time at the discretion of the State Department of Health.

Dated at Hartford, Connecticut, this ____________ *day of* ____________, *192*

____
Commissioner of Health.

No. ________

Form A-11-12-24-200

Approved Laboratories of the State Department of Health Under Regulations 39 and 40 of the Sanitary Code of Connecticut

No.	Name	Location
1.	City Department of Health	New Britain
2.	Laboratories of Dr. Charles T. Beach	Hartford
3.	Laboratories of Cheney Brothers	South Manchester
4.	City Department of Health	Bridgeport
5.	City Department of Health	Stamford
6.	City Department of Health	Greenwich
7.	Greenwich Hospital	Greenwich
8.	Grace Hospital	New Haven
9.	City Department of Health and Middlesex Hospital	Middletown
10.	City Department of Health	New Haven
11.	Meriden Hospital	Meriden
12.	Newland's Sanitary Laboratory	Hartford
13.	City Department of Health	Hartford

Legislation enacted by the last General Assembly required that laboratories doing bacteriological milk examinations, if the results of tests are to be used for publication, must now

be approved by the State Department of Health as approved laboratories for milk examination under Section 2482 of the General Statutes. In the short time this legislation has been in force only a few requests have been received from laboratories desiring to publish results of milk examinations and only one laboratory has been approved after inspection.

Approved Laboratory
for
Examination of Milk

This is to certify that the Laboratory conducted by

____

operated under the supervision of ______________________________

located at ______________________ *in* ______________________, *Connecticut,* *has been approved by the State Department of Health pursuant to the provisions of Section 2482 of the General Statutes as amended by Chapter 101, Public Acts of 1925.*

This approval expires December 31, 192 , and is revocable at any time at the discretion of the State Department of Health.

Dated at Hartford, Connecticut, this ____________ *day of* ____________, *192* .

____
Commissioner of Health.

No. ..________

Form A-12 5-25-200

Approved Laboratories of the State Department of Health Under Section 2482, Chapter 101, Public Acts of 1925

No.	Name	Location
2-A	Mitchell Dairy Co. Carl A. Brandt	Bridgeport

A RABID COW

By Millard Knowlton

The State Department of Health laboratories frequently examine the heads of dogs for evidence of rabies. It is not often that heads of other animals are examined for this purpose but recently the head of a cow brought in from Southington was examined and found to show evidence of rabies.

Upon investigation it was found that the cow had been giving milk at the time she became ill, that the milk had been consumed by members of the family and members of neighbors' families to whom it was sold. There had also been a number of visitors in the family prior to the time the cow became ill. The visitors drank milk from the cow ten or twelve days before symptoms of rabies occurred and it is probable at that time that the milk did not contain the rabies virus.

It is known, however, that rabies virus is present in the milk of a rabid animal when the disease occurs. For that reason all persons known to have drank milk from this cow after symptoms began were advised to take Pasteur treatment as a precautionary measure and consented to do so.

It is true that rabies virus will do no harm if taken by mouth unless there is some break in the mucous membrane lining of the mouth or alimentary tract through which the virus can enter the body. As it is not possible to be sure on this point Pasteur treatment was considered advisable rather than take chances on developing the disease. Since rabies is always fatal when symptoms of the disease once develop in a human being it is far better to take no chances when the possibility of exposure exists.

The same considerations apply to persons who have handled rabid dogs or other rabid animals so that their hands become soiled with saliva from such animals. The virus is present in the saliva and may enter the body through a crack in the skin or other lesion too small to be observed. For this reason the antirabic treatment, or Pasteur treatment as it is sometimes called, is always advisable in the case of persons who have handled rabid animals.

Rabies is usually contracted from a dog or other animal with sharp teeth because the sharp teeth lacerate the flesh and afford a much better opportunity for the virus to gain entrance to the body. The virus is present in the saliva of a cow or

other animal suffering from the disease. The bite of a cow is not apt to tear the flesh so much as the bite of a dog but if the virus from the cow's saliva can find entrance to the body through a break or abrasion in the skin one may contract rabies from a cow.

Owing to the number of persons who have handled the cow in this instance and the number who drank her milk about the time she became ill it was found upon investigation that 17 persons had been exposed sufficiently to warrant the Pasteur treatment. Of this number 5 were exposed by handling the cow after she became ill and 12 by drinking her milk.

The Pasteur antirabic treatment has been a great boon to humanity by preventing rabies in persons exposed. The cost of such treatment is borne by the community in accordance with Section 26 of Chapter 269 of the Acts of 1925 "Revising and Codifying the Dog Laws", which reads as follows:

"If any person shall have been injured by any dog or other domestic animal affected or believed to be affected by rabies, and a registered physician shall certify under oath that Pasteur treatment of such injury is necessary, the selectmen of the town, the mayor of the city or the warden of the borough in which such injury shall have been received shall, upon receipt of the certificate of such physician, immediately provide for such treatment, and the expense thereof shall be paid by such town, city or borough".

CONNECTICUT'S CARE OF THE FEEBLEMINDED

By Olive T. Rockwell, A. B.
Division of Mental Hygiene

The proper care of the feebleminded is one of the most serious problems facing the state of Connecticut. It is estimated that about two per cent of the population of the United States is mentally deficient, and therefore that there are approximately three thousand individuals in Connecticut who need care, supervision, or a special form of education. Important steps have already been taken in this direction but much remains to be done.

Connecticut was the fifth state to provide for the care and training of its feebleminded. In 1857 Dr. Henry M. Knight took a few private patients into his own home and the following year the state began sending patients to him. The demand for such care grew rapidly until in 1913 the state bought the "Connecticut School for Imbeciles" at Lakeville, consisting of several three-story wooden buildings on six acres of ground, located between the village and the lake. Although there were 300 children at the school there was still a large waiting list but no room for expansion. In 1915 the

Healthful Work on the Farm

legislature voted to move the school to grounds adjoining the Connecticut colony for Epileptics at Mansfield Depot and in 1917 the two institutions were combined under Dr. Charles T. LaMoure, who had been the superintendent of the Connecticut School for Imbeciles since 1914. The institution then became the Mansfield State Training School and Hospital for the Feebleminded and Epileptic.

The institution has continued to grow until at present there are in use four fire-proof dormitories on the girls' side and three on the boys, accomodating in all about six hundred children. There are separate kitchens and dining rooms for each side, a school building, a hospital with sixty beds, two nurses' homes, a laundry. power house and store house, including three buildings which are just being completed. As soon as the additional water supply is available these buildings will be opened and will increase the capacity by 200. It is hoped that eventually facilities for 1200 will be provided.

At the present time there is a waiting list of 500, and new applications are being received at the rate of 14 a month. These applications are made either directly to Dr. LaMoure, the superintendent, or to Miss Mabel Matthews, chief of social service, whose office is at the state capitol in Hartford. The application is put on file and the case investigated, and when a vacancy has been found for the patient the person referring the case is notified to have the regular commitment made. It is advisable not to do this until the vancancy occurs.

For the past three years the school has had a social service department which investigates the applications and keeps a list of the most urgent cases desiring admission, so that when a vacancy occurs, the most urgent case can be selected. This department also assists in paroling patients who are ready to leave the training school, by looking into their home conditions before discharge, helping to readjust the patient to the home, helping to find some suitable work, and paying frequent visits to be sure that he or she is getting along well in the community. If conditions are not satisfactory the child is, of course, returned to the school.

What the School Does for its Children

The activities of such a school are varied. Aside from the medical care given by the superintendent and his assistant physicians, the school gives academic and vocational education and experience in social contacts, so that as many as possible can be paroled after training and live comfortably in private homes, keeping in touch with the school through its social service department.

Dr. LaMoure has recently described the training given:

"Our school department has an enrollment of one hundred children with a teaching force of nine instructors and school is conducted daily during the regular school year. The instruction consists in sense training, kindergarten, academic work, sewing, domestic science, dress making, manual training, music, dancing, gymnasium work and singing. Each year the school department presents two plays for the benefit of the whole institution and the children even make their own costumes for these plays. From the school department, boys and girls are placed in the different industrial departments and are taught the different industries, depending upon their ability. Even after leaving the school department, the boys and girls have certain periods at school in the gymnasium, music, dancing and singing classes. A choir of eighteen girls sing at our Sunday service.

Training To Be Self-Supporting

"During the summer, a ball game is held every Saturday afternoon. Weekly, we have a dance alternating with the movies. Sunday services are held regularly Sunday afternoon except during the summer months. All holidays are carefully observed. Many birthday parties are celebrated. All departments hold their picnics in the grove, at separate times.

Many of our boys attend the Stafford Fair and the nearby circuses. Our farm and gardens provide healthful work for many boys, as well as girls."

Such training is, of course, most effective among the high grade feebleminded many of whom can be made self-supporting and adaptable to the demands of every-day life outside the institution. Many others of this class while not able to get along without constant supervision, are busy and happy, helping with the work of the institution, caring for younger ones, sewing, cooking, farming.

But over two-thirds of the patients at Mansfield are of the idiot or imbecile class; that is, as adults their mental age will be less than seven years. Of these, 166 will never exceed the mental age of two years. They must always have custodial care.

The Value of Special Training

Care and training at the Mansfield Training School are beneficial to the patient, the family, and the community. The school can give the expert care which could hardly be expected of parents untrained in this highly specialized work. Many of the children have been given so much consideration in their homes that their native ability has not been discovered. For instance, it is not uncommon to see a child who has always had to be dressed by its mother not only learn under wise instruction to dress itself, but even to assist in caring for the smaller ones. Such an accomplishment is a joy to the child.

In some cases the child has been admitted because of urgent conditions in the home, such as the necessity of the mother's working to support her family. Frequently after training, such children are able to be placed in private homes, with the parents' approval, where they are properly supervised and may become self-supporting.

Still other children have been taken from bad environments which sooner or later would have brought them into conflict with the law. If admitted when they are still young enough to profit by the training, many of these children can later be placed out and succeed well. When admission is delayed until bad habits have been established the children may have to remain at the school for an indefinite period in order not to become a public charge or a menace to the morals of their associates.

On the fast growing waiting list of 500 there are all these types of patients, those who need education and training for self-support, those who are a serious handicap to the welfare of their families, and those who are or soon will be a danger

to the community. Until greater facilities are available, these children and young adults cannot receive adequate protection or supervision.

Future Useful Citizens

The aim of the Mansfield State Training School and Hospital is "to make the children as happy as possible and to train them to be as useful as their minds will permit." That the school is achieving its purpose to a remarkable degree is evident to anyone who visits the school and sees the happy faces of the children, in the school-rooms, the work-rooms and the fields.

Other Facilities for Training

Although this article deals principally with the institutional training of the feebleminded and epileptic, there should be mentioned the other facilities which are developing rapidly throughout the state. Many cities and towns have special classes or schools for the academic and vocational instruction of retarded children, the State Department of Education cooperating in this work. Such classes can advantageously provide education for the majority of feebleminded children, if their home conditions are satisfactory and the children have no marked tendency toward behavior disorders which would cause them to fall into trouble. Supervision of these children outside of school hours and after leaving school is needed in any complete plan for the solution of the problem of mental deficiency in the state.

NEWS NOTES FROM THE FIELD

Among the Health Officers:

Mr. E. Ambrose English has been appointed town health officer of Bethel, replacing Mr. Leroy A. Stone, formerly borough health officer.

Mr. George W. Davis of Sterling has been appointed health officer of that town, replacing Mr. F. W. Hazard.

H. D. Lockwood, M. D., has been appointed health officer of Meriden in place of Dr. Joseph A. Cooke.

Of Interest to all Physicians

Wassermann Test Made Five Times Weekly

The complement fixation test for syphilis is now so carried out in the Bureau of Laboratories that a blood sample received at the Laboratories before 12 o'clock noon on Monday, Tuesday, Wednesday, Thursday and Friday of each week is ready for report by five P. M. of the following day. When holidays intervene twenty-four hours extra are required. Specimens received later than noon on Friday will not be ready for report until five P. M. the following Tuesday. When a specially prompt report is desired, specimens should reach the laboratory as early in the week as possible.

Allowance should be made for delays in the mails both with specimens and on reports. Reports on examinations of blood for syphilis will be telephoned at the physician's expense when so requested on blank. Telephone reports are made as soon as tests are completed.

Rural Child Health Work Interrupted

Seventeen of the rural Well Child Conferences were suspended because of the impassability of the roads after the heavy snow storms of February.

The mothers could not get out with their children, neither could the follow-up workers get in to make their usual visits to the families. It is hoped that the roads will be in sufficiently good condition by April that the work can go on again as usual.

New England Health Institute Postponed

The New England Health Institute which was to have been held at Concord, New Hampshire, May 24-28, has been postponed until September 27 to October 1.

This change was made on account of the American Health Congress which convenes at Atlantic City May 17-22.

Vital Statistics

Month of January

The births for the month number 2,340, which is a total 270 less than the corresponding total of 2,610 in 1925. There is wide fluctuation in the number of births reported in the last six years for January. For example, 1926 is 616 below the number reported in 1921, which is a decrease of 23 per cent. The mean number of births is 2,678 over the last six years and from this it appears that 1926 is 338 below the average. There has been a downward trend of about 95 per year for the last six years and a calculation of the standard deviation of this trend shows that the trend is significant.

There are 48 towns in the state over 5,000 in population. Only 3 of them reported an increase of 10 or more over the same month in 1925. New Britain with an increase of 15 ± 16; New London 18 ± 11; Winchester 15 ± 6. It will be observed from the chance fluctuations of these figures that Winchester is the only town in which the increase could be considered significant, and even that increase is open to question with respect to its significance.

There were 94 stillbirths as compared with 120 in 1925. This is a decrease of 26. The rate of stillbirths, on a monthly basis, among the total births is 38.6 ± 3.9 for 1926. In 1925 the corresponding figures are 43.9 ± 4.0. The difference between these rates is 5.3 ± 6.0, showing that the decrease has no statistical significance. The sex distribution of the stillbirths was 52 male, 42 female. This yields a sex ratio of 124 males to 100 females. This apparent tendency of the males to predominate will be examined each month throughout the year. The question might be asked whether or not this is a significant sex ratio. If we analyze the stillbirths as a group in themselves and find the probabilities, with their standard deviations, of male and female stillbirths per 1,000 stillbirths the following figures will arise: Male stillbirths in 1,000 stillbirths 553 ± 77; female stillbirths in 1,000 stillbirths 447 ± 69. The difference between these is 106 with a dispersion of ± 103, showing there is no significance in this sex ratio for this month, at least. The problem may be attacked from the angle of stillbirths among the total births. The total births are 2,434. The sex distribution of stillbirths will now be: male, 21.3 ± 3.0 in 1,000 **total** births; female, 17.2 ± 2.8. The

difference in these is 4.1±4.0, again showing the lack of significance inasmuch as the differences are nearly equal to their standard deviation, and figures which can fluctuate by 100 per cent of their values are certainly untrustworthy. Possibly the results may become significant during the course of the year.

Deaths

The reported deaths number 1,648 as compared with 1,687 in 1925, a decrease of 39. Each of these figures is subject to a chance dispersion of about 41 and therefore the difference is of no significance, as the dispersion of the difference would be greater than 41 which is in itself greater than 39 and we have the case of figures which are less than their dispersion.

The mean number of deaths is 1,642. The trend for the last six years for the number of deaths has been upward at the rate of 16 per year, with a standard deviation of ±24.0, indicating lack of significance. The trend of the death rate turns out to downward by about 0.1 per year with a standard deviation of 0.2, again showing that no significant fluctuation has occurred within the last six years either for the number of deaths or in the death rate.

Below is given a tabular exhibit of certain diseases comparing 1926 with 1925.

	1926	1925	Increase	Decrease
Disease of heart	235±15	257±16	....	22±22
Epidemic encephalitis	3± 2	3± 2	....	....
Pneumonia undefined	3± 2	2± 1	1± 2	....
Typhoid fever	3± 2	3± 2	....	....
Measles	39± 6	2± 1	37± 6	....
Scarlet fever	4± 2	7± 3	....	3± 3
Whooping cough	13± 4	9± 3	4± 5	....
Diphtheria	15± 4	16± 4	....	1± 6
Influenza	51± 7	49± 7	2±10	....
Tuberculosis, pulmonaary	67± 8	95±10	....	28±13
Tuberculosis, other forms	13± 4	9± 3	4± 5	....
Cancer	118±11	131±11	....	13±16
Cerebrospinal meningitis	1± 1	3± 2	....	2± 4
Poliomyelitis	0	2± 1	....	2± 1
Pneumonia, Lobar	125±11	117±11	8±16	....
Pneumonia, broncho	83± 9	123±11	....	40±14
Diarrhoea and enteritis Under 2	16± 4	17± 4	....	1± 6
Puerperal diseases	13± 4	6± 2	7± 4	....
Accident	93±10	88± 9	5±13	....
Suicide	18± 4	12± 3	6± 5	....
Homicide	1± 1	5± 2	....	4± 2
Other causes	734±27	731±27	3±38	....
Totals	1648±41	1687±41	77	116

A glance down the column of increases shows one disease, measles, with a far from insignificant increase, being six times

its standard deviation. The bulletin of last month showed 2,600 cases of measles as compared with 231 in 1925. In 1923 there were 2,066 cases with 24 deaths. Measles has hit the state a sudden blow and serves to show the fact that while ordinarily relatively mild, when epidemic the mortality may be far from inconsiderable.

Two diseases decreased by probably significant amounts. Pulmonary tuberculosis, a decrease of 28 ± 13 and broncho pneumonia, 40 ± 14. The decrease in broncho pneumonia is particularly encouraging. With an anticarelessness campaign, all forms of pneumonia should decrease.

Automobile accident deaths increased, of course. There were 22 in 1926 as compared with 14 in 1925. Month after month this cause of death appears to increase.

The decrease in cancer is not of statistical significance but it is a decrease, nevertheless. If this encouraging fact is maintained throughout the year the result may be of great significance.

The infant mortality is lower than in any of the last six years.

Marriages

The marriages fell off by 78, there being 707 this year as compared with 785 in 1925. The average is 802 for the month, making this year 95 below. The actual number of marriages has been decreasing by about 34 per year, uniform trend, during the last six years and this decrease appears to be significant. The decrease in the marriage rate, reduced to uniform trend, is about $.3 \pm .14$ per year which is possibly significant.

For Six Years—January, 1926

CONNECTICUT	1921	1922	1923	1924	1925	1926
BIRTHS *Birth Rate*	2956 25.0	2886 23.9	2587 21.0	2688 21.5	2610 20.5	2340 18.0
DEATHS *Death Rate*	1534 13.0	1595 13.2	1833 14.9	1556 12.4	1687 13.2	1648 12.7
MARRIAGES *Marriage Rate*	960 8.1	767 6.4	777 6.3	820 6.5	785 6.2	707 5.4
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	217 14.1	202 12.7	257 14.0	159 10.2	182 10.9	193 11.7
DEATHS UNDER 1 YEAR *Rate Per 1,000 Births*	256 89.9	210 80.5	238 92.8	220 83.8	233 88.7	193 78.3

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

JANUARY, 1926
Statistics

	Population Est. as of July 1, 1925 Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Stillbirths	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1 558 996	2340	94	707	1648	12.7	0.5	78.3	193	77	631
Ansonia	19,291	12	1	9	19	11.8	0.6	79.7	2	6	7
Branford	7,014	10	...	3	5	8.6	...	...	...	...	4
Bridgeport	170,717	270	15	73	154	10.8	0.6	98.9	27	12	40
Bristol	25,354	59	...	7	32	15.1	1.4	139.0	7	2	12
Danbury	21,931	46	1	11	28	15.3	...	92.6	4	...	9
Derby	12,732	30	...	4	15	14.1	...	108.8	4	1	6
East Hartford	13,950	12	1	6	12	10.3	...	80.5	1	1	8
Enfield	13,039	22	...	9	8	7.4	...	...	...	...	4
Fairfield	15,041	8	...	3	13	10.4	2.4	...	...	...	5
Glastonbury	6,124	5	...	3	5	9.8	3.9	...	...	...	2
Greenwich	25,790	41	3	48	13	6.0	...	25.2	1	...	4
Groton	11,045	7	...	5	9	9.7	...	88.8	1	1	6
Hamden	10,434	16	...	4	8	9.2	...	61.2	1	...	4
Hartford	164 228	338	10	73	181	13.2	0.4	68.3	23	6	51
Killingly	9,218	14	1	8	11	14.3	...	183.6	3	1	5
Manchester	21,505	32	3	9	13	72.5	...	52.5	2	...	3
Meriden	36,529	71	5	17	46	15.1	0.3	85.9	5	3	16
Middletown	22,891	...	...	...	51	26.7	...	39.8	2	1	28
Milford	14,073	11	1	3	8	6.8	0.9	...	...	...	4
Naugatuck	16,589	12	...	3	10	7.2	...	71.0	1	1	3
New Britain	69,482	130	5	28	71	12.3	0.7	72.9	10	4	21
New Haven	181,823	307	13	103	203	13.4	0.4	41.8	14	7	76
New London	29,566	68	3	27	31	12.6	0.4	77.3	5	1	10
Norwalk	29,859	48	3	19	46	18.5	1.2	118.3	7	...	20
Norwich	30,576	55	5	13	50	19.6	0.8	58.1	4	3	21
Plainfield	8,694	15	...	7	4	5.5	...	...	...	1	...
Plymouth	6,364	7	...	1	2	3.7	1.9	...	...	...	2
Putnam	9,105	13	...	7	9	11.9	1.3	52.4	1	...	6
Seymour	8,116	6	...	4	2	2.9	...	93.7	1	...	...
Shelton	11,398	15	...	1	16	16.8	1.1	...	...	1	3
Southington	9,727	17	3	1	6	7.4	...	64.8	1	...	3
Stafford	5,454	16	1	2	5	11.0	0.7	...	...	...	...
Stamford	47,373	78	3	35	66	16.7	0.8	61.1	6	10	18
Stonington	10,930	14	...	12	10	10.9	...	139.5	2	...	5
Stratford	16,768	19	...	1	16	11.5	...	154.5	3	...	5
Thompson	5,203	8	...	...	2	4.6	...	...	...	...	2
Torrington	24,929	40	2	7	21	10.1	...	112.7	5	...	10
Vernon	8,787	14	...	1	8	10.9	...	...	...	...	6
Wallingford	12,571	4	...	8	16	15.3	1.0	64.5	1	1	11
Waterbury	104,047	163	6	44	127	14.6	0.6	88.9	18	8	39
Watertown	7,359	7	1	5	7	11.4	...	155.8	1	...	3
West Hartford	11,562	17	...	1	22	22.8	...	502.6	8	...	8
West Haven	18,334	23	...	5	22	14.4	3.3	88.0	3	...	12
Westport	5,685	5	...	1	10	21.1	...	...	...	1	5
Wethersfield	5,141	7	...	...	6	14.0	...	250.0	1	...	3
Winchester	9,074	26	1	6	18	23.8	...	213.3	4	...	8
Windham	14,391	...	...	...	14	11.7	1.7	69.4	2	...	6
Windsor	6,584	5	...	2	2	3.6	...	...	...	...	1
Towns under 5,000	212.599	197	7	68	195	11.0	0.4	78.3	12	5	106

for the month of January, 1926

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
235	3	3	3	39	4	13	15	51	67	13	118	1	......	125	83	16	13	93	18	1	535	243
				2			1	1	1	1	1			1	1	1						
1														1								
20				17	1	2	2	3	4	2	9			9	6	1		12	2		62	15
1						1	1	2	3		2			5	5						8	1
4											3			2	2			3			6	3
3				1							1			3				1	1		6	6
5							1				1				1							
1											2				1							
2								1	3					3			1					1
1									1													
3														1	1		1				5	2
2		1						1							1							1
2						1					1				1			1	1			
26	1		1	1			2	3	4	4	15			15	15		3	11	1	1	97	43
3															1			1				
3											2			1				1			6	
6		1				1	1	2	1		2			5	3	1	2	4	1		18	3
8								1	4		1			2	1			5	2		33	29
3									1					1				2			2	
3						1					1			1								
6								1	2	1	8	1		6	6	1		5			26	6
20			1	3	2	1		1	2	2	18			23	9	1	1	15	3		85	30
7					1			2	1		2			1		1		1	1		9	5
7	1							4	3		1			8	3	1					11	5
3				2		1		1	7		3			1	4	1		4	1		20	8
1				1											1			1				
									1					1								
4									1		2					1					2	1
						1					1											
2						1		1	9		1										8	8
														1				1				
1														1			1				2	1
7				5			5	5	1		2			6	1		3	2	1		21	5
1						1		1							2							2
4								1		1	2			1								
											1											
3						2		3		1								2			4	2
3								1			2											1
3											2				2	2					4	
18	1	1		6				2	5		13			10	5			9			40	14
								1			1											1
3			1					1			2			1	1	4					8	1
8									4									1			6	6
1							1				1										2	2
								1														
														1	2			3	1		7	7
2									1		4			1				1			4	1
																		1				
34				1			1	11	8	1	11			13	8	1	1	6	3		33	33

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF FEBRUARY, 1926

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of February, 1926, with the corresponding month for the years 1921, 1922, 1923, 1924, and 1925.

DISEASE	Average 1921-1925 for February	Mean 1921-1925 for February	1921	1922	1923	1924	1925	1926
Cerebrospinal Meningitis ..	7	8	8	12	9	2	2	1
Diphtheria	253	229	389	255	191	229	202	183
Encephalitis Epidemic	13	11	16	11	34	2	4	4
Measles	792	756	756	545	1,575	829	259	2,591
Poliomyelitis	2	1	1	4	1	2	1	1
Scarlet Fever	577	679	679	375	362	746	725	331
Smallpox	16	65	......	65	10	7	......	......
Typhoid Fever	9	7	17	7	5	5	13	11
Tuberculosis Pulmonary ..	133	133	188	140	101	133	103	103
Whooping Cough	235	197	376	112	303	188	197	291

A comparison of the morbidity on these diseases for the two preceding months, December and January with the February record is as follows:

	December	January	February
Cerebrospinal Meningitis	4	....	1
Diphtheria	185	185	183
Encephalitis Epidemic	5	4	4
Measles	787	2,600	2,591
Poliomyelitis	2	......	1
Scarlet Fever	276	338	331
Smallpox	......	......	......
Typhoid Fever	30	12	11
Tuberculosis (pulmonary)	85	123	103
Whooping Cough	224	332	281

Cases of Other Reportable Diseases

Anthrax	2	Paratyphoid Fever	3
Chickenpox	446	Septic Sore Throat	7
Conjunctivitis Infectious	34	Gonorrhoea	54
Encephalitis Epidemic	4	Syphilis	75
German Measles	52	Chancroid	1
Influenza	54		
Mumps	50	Total	782

Cases of Occupational Diseases

Anthrax	1	Lead Poisoning	19
Acute Dermatitis	1		
Eczema	1	Total	22

Cases of Certain Reportable Diseases

FEBRUARY, 1926	Population Est. as of July 1, 1926	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Broncho-Pneumonia	Other Com. Diseases
State Total	1,558,996	11	2591	331	281	183	1	1	103	8	210	153	782
NEW HAVEN CO.	**467,392**	**1**	**525**	**123**	**83**	**95**			**29**	**1**	**47**	**17**	**238**
New Haven	181,823		135	55	44	3			15		14	5	115
Waterbury	104,047	1	87	15	2	6			7		16	5	10
Meriden (city and town)	36,529		130	11	7	7			5		8	5	8
Ansonia	19,291		1	2	2	6			1		1		
West Haven	18,334		1	7					1		1		3
Naugatuck	16,589												
Wallingford (town and boro)	12,571		2	2	1	2							2
Milford	14,073		67	13							2		4
Derby	12,732		1										
Hamden	10,434		3	11	22	59				1		2	42
Branford (town and boro)	7,014		2	4		11					1		10
Seymour	8,116			1									
Towns under 5,000	25,839		96	2	5	1					4		44
FAIRFIELD CO.	**371,561**		**561**	**109**	**36**	**36**			**17**		**42**	**33**	**85**
Bridgeport	170,717		162	79	24	18			12		23	23	27
Stamford (city and town)	47,373		103	8	3	10			2		6		26
Norwalk	29,859		12	4		2					1	1	
Danbury (city and town)	21,931			2									
Greenwich (town and boro)	25,790		62	5		3					6	6	6
Stratford	16,768		25	3	1	1					4		
Fairfield	15,041		108	5	3	2			1				2
Shelton	11,398												
Westport	5,685												
Towns under 5,000	26,999		89	3	5				2		2	3	24
HARTFORD CO.	**393,501**	**4**	**839**	**46**	**97**	**34**	**1**	**1**	**42**	**6**	**61**	**31**	**318**
Hartford	164,228	3	425	19	29	15			27	1	21	12	97
New Britain	69,482		4	7	3	3			6	2	4	5	32
Bristol (city and town)	25,354		1		39	1	1		2	1	9	4	59
Manchester	21,505		136	9		3					7	3	23
Enfield	13,039		1	1	12	1			1		1		24
East Hartford	13,950		16	1		1				2	2		1
Southington (town and boro)	9,727		27	1		2					7		
West Hartford	11,562		82	1	5	4		1	2				69
Windsor	6,584		73			1					2	1	
Glastonbury	6,124		22	2					3		1	2	
Wethersfield	5,141		42	3							1		
Towns under 5,000	46 805	1	10	2	9	3			1		6	4	13
NEW LONDON CO.	**113,554**		**402**	**37**	**11**	**10**			**6**	**1**	**14**	**11**	**40**
Norwich (city and town)	30,576		7	3		1			2	1	1	2	1
New London	29,566		119	17		1			2		8	4	13
Stonington (town and boro)	10,930			2	5	1			1			1	
Groton (town and boro)	11,045		17	12	1	3					1	1	13
Towns under 5,000	31,437		259	3	5	4			1		4	3	13
LITCHFIELD CO.	**80,282**	**6**	**87**	**6**	**5**	**2**			**1**		**8**	**6**	**8**
Torrington (town and boro)	24,929	6											
Winchester (inc. Winsted)	9,074			1		1							
Plymouth	6,364		3	2								1	
Watertown	7,359		68	2							1		
Towns under 5,000	32,556		16	1	5	1			1		7	5	8
WINDHAM CO.	**55,799**		**36**	**3**	**11**	**2**			**2**		**6**	**3**	**50**
Windham (inc. Willimantic)	14,391		1	3		1					2	1	4
Putnam (city and town)	9,105				6						3		4
Plainfield	8,694					1							
Killingly (inc. Danielson)	9,218		19		2						1		
Thompson	5 203		12										15
Towns under 5,000	9,188		4		3				2			2	27
MIDDLESEX CO.	**49,185**		**58**	**6**	**37**	**4**			**6**		**28**	**48**	**39**
Middletown (city and town)	22,891		38	2	33						22	44	2
Middletown State Hospital									3				4
Towns under 5,000	26,294		20	4	4	4			3		6	4	33
TOLLAND CO.	**27,722**		**83**	**1**	**1**						**4**	**4**	**4**
Vernon (inc. Rockville)	8,787		14										1
Stafford (town and boro)	5,454		13	1							3	4	2
Towns under 5,000	13,481		56		1						1		1

Laboratories

SUMMARY OF BUREAU ACTIVITIES FOR FEBRUARY, 1926

DIAGNOSTIC

	+	—	?	Unclass-ified	Total	
Typhoid	6	31	....	....	37	
Paratyphoid A	....	37	....	....	37	
Paratyphoid B	5	31	1	....	37	
Diphtheria	906	1,348	....	....	2,254	
Diphtheria Virulence	5	36	....	....	41	
Vincent's Angina	3	649	....	....	652	
Haemolytic Streptococci	20	632	....	....	652	
Tuberculosis	20	77	....	....	97	
Syphilis	257	1,231	210	....	1,698	
Gonorrhoea	22	60	....	....	82	
Pneumonia						
Typings for Type II	1	....	....	....	1	
Typings for Type IV	2	....	....	....	2	
Malaria	....	1	....	....	1	
Rabies	6	4	....	....	10	
Feces Examinations	....	4	....	....	4	
Worms	....	2	....	....	2	
Parasites	....	1	....	....	1	
Parasites & Tuberculosis	....	1	....	....	1	
Special specimens	4	10	....	2	16	5,621

CHEMICAL AND BACTERIOLOGICAL

Milk samples	143	
Water samples	150	
Clinical thermometers examined	8	301
Total examinations made		5,922

Examinations of Tooth Brushes

Special laboratory work during the month included the examination of toothbrushes that had been used by diphtheria patients. These toothbrushes have been collected at the request of the Laboratories by local health officers when releasing persons from quarantine. The brushes are being examined by special technique for the presence of diphtheria bacilli and for haemolytic streptococci that might be the cause of scarlet fever. To date none of the examinations have shown the presence of either of these organisms, but the investigation will be continued.

MARCH IS THE MONTH

When

Connecticut

STARTS ITS SPRING CLEANING

How Complete the Clean-up Is

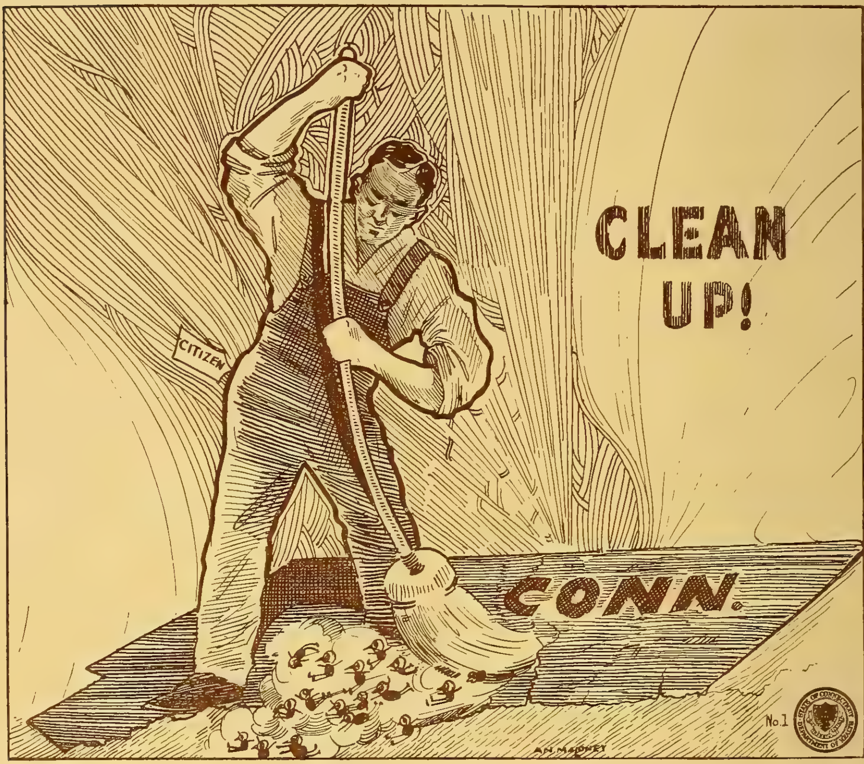
Will Depend Upon

INDIVIDUAL EFFORT

COMMUNITY CONSCIOUSNESS

The Spotless Town is a

FIRST LINE DEFENCE AGAINST DISEASE



THE ANNUAL CLEANING SEASON IS HERE

Now is the time to make a clean sweep of all dirt and filth that has accumulated during the winter season. Disease germs may lurk in the corners, ready to take on new life. Filth should not be allowed to collect, but should be completely destroyed.

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 40 APRIL, 1926 No. 4

This Issue Contains

STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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CONNECTICUT STATE DEPARTMENT OF HEALTH
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CONNECTICUT

HEALTH BULLETIN

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STATE DEPARTMENT OF HEALTH

CONNECTICUT STATE HOSPITALS AND HOW TO USE THEM

By Winifred W. Arrington,
Division of Mental Hygiene

The development of the State Hospital from the lunatic asylum to its present form is a matter of comparatively recent years. Nevertheless, the gradual change of attitude which has occurred inside the four walls of institutions housing the mentally sick is little short of a complete revolution. It was the old idea that the community must be protected from the insane man. Today the aim is quite as much to rescue the mental patient from the community—to offer him a retreat for convalescence. The very change of terms is indicative of the shift of emphasis from the legal to the medical aspect—today insanity is mental disease, and the lunatic has become a patient. Psychiatry has appeared as a distinct branch of medicine. Unfortunately, the new conception is still confined very largely to psychiatrists and to the hospitals themselves. Far too many of the lay public and even of the general medical profession still regard the state hospital solely as a means of safeguarding the normal man from his demented neighbor. Too few doctors and nurses conceive of it in its proper light as a sanitarium, or are familiar with the procedure necessary to admit mental patients quietly and at the crucial time.

Connecticut has at the present time two hospitals for the care of mental patients: the older, Connecticut State Hospital, established in 1868 and located at Middletown, and the younger, Norwich State Hospital, situated on the outskirts of the town of Norwich, which accepted its first patient in 1904. The former has a capacity of 2,180 and during 1925 treated a total of 3,248 patients; Norwich Hospital, with accommodation

for 2,000, cared for 2,442 in the same period. Each institution is provided with a staff of twelve physicians, inclusive of the superintendent, assistant superintendent, pathologist, and the clinical director, as also with a large nursing staff and occupational therapists who play a vital part in rehabilitating many patients. In each case there is appropriation for at least one psychiatric social worker, who makes the connection between home and hospital, investigating and helping to improve the conditions to which the discharged patient returns, and keeping in touch with all possible paroled patients.

The State Hospital as a Sanitarium

These institutions are preeminently hospitals, that is, they are equipped to effect improvement or cure of mental illness to the limit of current medical knowledge. First of all, they

State Hospital Grounds at Middletown

subject the patient to regular habits of hygiene. In many cases the patient comes to the hospital following weeks or months of irregular care at home; his family have been unable to keep him in bed at night, perhaps, or to see that he was properly nourished if he refused to eat with the rest; his whole physical system is perhaps sluggish or exhausted from

overactivity. The hospital gives him plain, nourishing food at regular intervals; in extreme cases of an obstinate refusal to eat tube feeding is resorted to. If the disease manifests itself by extreme restlessness and hyperactivity with inability to sleep, hydrotherapy is used. Each hospital plant is provided with up-to-date hydrotherapeutic facilities, so that manic patients may be soothed quite harmlessly by baths of suitable type and temperature, instead of frequently administered drugs.

The maximum of light and air is supplied to the wards, and all who are not in the most acute stage of mental illness have access to sun parlors at the ends of the corridors. These sun parlors are furnished as attractively as funds and constant usage will permit, and both at Norwich and at Middletown command delightful, unbroken views of the surrounding country.

Needless to say, patients are given thorough physical examinations and every effort is made to eliminate irritation from physical causes. Each hospital contains an X-ray room, a general operating room, and a gynecological room. Wherever necessary, general surgery is performed according to approved technique. Hyperthyroidism and similar conditions are given direct medical attention, and so far as possible, every facility of the general hospital is extended to patients under care. The infirmary and the isolation cottage are always available for special emergencies.

Each patient is daily observed by the ward physician for the small but significant changes which distinguish one type of mental disease from another. Wherever possible, an analysis of the mental content is attempted, with a close study of hallucinations and delusions. No patient is kept in confinement unless his own safety or that of others demands it, and the number of typical madmen or violent cases (as the public thinks of them)—disturbed patients (as they are known to the hospital)—is astoundingly small in proportion to the entire hospital population. The majority of patients are free to move about the wards, and with improvement comes a steady increase of freedom until parole itself is finally granted. The patient's cooperation and confidence are sought always, and effort is made to cultivate comfort and satisfaction rather than antagonism.

The Personal Equation

Careful study has shown that work of some sort has a strong therapeutic effect, and it is this principle of occupational therapy which the State Hospital, in common with all

the progressive general hospitals, has adopted with extremely beneficial effects. Not every mental patient can be persuaded to occupy himself, but as the acute phases pass and convalescence begins, the willingness to "do something" grows. At first, perhaps, it is simply pacing the corridor, pushing a felt mop over the hardwood floor. Later it may be a regular time in the hospital laundry or kitchen, not working for board but working for the sake of work, for the sense of accomplishment. Or the task may have more of creative value, loomwork, basket-making or needlework in great variety for the

Patients Assist in Machine Shop, State Hospital, Middletown.

women; for the men, broom or rug making, carpentry in numerous forms, brass work, painting, the making of toys, etc. The results of such work in some cases are gratifying beyond expectation and in most instances there is a noticeable speeding up of the recovery. The consciousness of successful achievement is medicine in itself. The logic is evident when one reflects that, by former methods, these same relatively interested patients were allowed to sit idle and brooding, or wander about agitated and aimless through the entire day.

Good hygiene, medical care, occupational therapy—these are all elements in the reestablishment of mental patients here

in Connecticut. A fourth element—play or recreation—is equally vital. The ends of recreation are served by periodic dances and moving pictures which are open to all patients who are ablebodied and not too seriously disturbed. There are also regular religious services suited to different faiths. Visiting hours are frequent and generous, so that patients may keep in touch with relatives, and every effort is made to create as congenial an atmosphere as may be, within the limitation of hospi-

State Hospital, Middletown, Patients Have Pleasant Rooms.

tal routine. At the base of all action is the fact that mental disease is usually relievable and often curable, and in each case a return to the community is looked for.

After Care for Paroled Patients

As already noted, the two State Hospitals aim, through the Social Service Department, to bring the home conditions into tune with the hospital. If a patient's breakdown has been precipitated largely by a state of friction at home, of what use is it to restore him to normalcy and send him back to face the same problems? Advice and explanation—so far as possible, readjustment—are required within the home as well as for the patient himself. Here lies the function of the psychiatric social worker.

The hospital clinics, too, serve an excellent purpose. Patients on parole are encouraged to return at stated intervals for reexamination and suggestions from the hospital physicians, and to receive the help which will tide them over the first difficult months of resuming life in the community.

Commitment of Mental Patients in Connecticut

There are three forms of commitment which are ordinarily to be used in Connecticut.

Voluntary Commitment.—Under this type of commitment the patient goes to the hospital accompanied by friends or relatives, and there signs a paper himself, stating his desire to undergo treatment for an indefinite period, meantime abiding by all rules of the institution. He agrees to give ten days' notice in writing whenever he desires to leave. This form is to be urged in any case where the patient possesses insight into his own condition, but under no circumstances must coercion be exerted to obtain the patient's signature. If, in the judgment of the hospital, the patient's condition does not warrant discharge when notice is signed by him, the relatives may be advised by the Superintendent to proceed with a probate commitment, and in event of delay, an emergency commitment may be executed pending completion of the latter.

Emergency Commitment.—This form makes provision for an emergency certificate in the case of any person who becomes suddenly and violently insane, and entitles the hospital to hold any such person for twenty days. The certificate is to be signed by any reputable physician and sworn to before a notary public. The reasons necessitating immediate care are to be set forth. The certificate must be sworn to within three days of the physician's examination, and presented with the patient at the hospital within three days after signature before a notary. It is the duty of the Superintendent to notify the State Comptroller immediately upon receiving the emergency commitment, and the latter then proceeds with the regular probate commitment in the court nearest the hospital, the patient's home town assuming the costs.

Regular or Probate Commitment.—The probate commitment is most common. A complaint signed by any person, but preferably a relative, is presented to the probate court, alleging that the patient is insane. If the patient is a pauper, complaint is made by the selectman. The judge of probate then appoints two physicians to make an examination. A date is set for a hearing, not more than ten days away, at which the patient or relatives are privileged to appear. The judge is

then at liberty to issue an order committing the patient for an indefinite period to a state or private institution.

Blanks for this form of commitment may be secured from the state hospitals, the probate courts, and sometimes from local physicians.

The question of maintenance of patients within the hospital lies in the province of the Department of State Agencies and Institutions. An agreement is made with the family which takes into consideration the financial ability of the individual case. For all ordinary patients the rates vary from $3.00 to $5.00 weekly. Private patients pay more for service which is the same except for separate rooms.

"Dont's" Concerning Commitment

Do not postpone treatment or at least examination of any person who shows signs of mental disorder. If possible, put the patient in touch with a Mental Health Clinic—there are many in Connecticut of which the State Department of Health will be glad to inform you—for early diagnosis counts. With many forms of mental disease, prevention of a serious crisis is possible, and care given promptly will arrest the trouble at a relatively mild level.

Do not deceive a mental patient. Ruses and tricks of all sorts are to be condemned, especially when taking a patient to the hospital. Suspicion is one of the earmarks of mental disease, the basis of many delusions, and when a patient finds that he has been deliberately hoodwinked, his illness may be aggravated just as exposure aggravates pneumonia.

Do not send the patient to the hospital accompanied by a police officer. Send him as quietly as possible, and if it can be arranged, let him be escorted by some friend or relative with whom he is familiar. Always let a woman patient have a woman attendant. Unhappy impressions at the first go far to impede recovery in the hospital. Particularly, must the idea of forcible detention be made as inconspicuous as possible.

CONNECTICUT INFANT MORTALITY—1925

By William C. Welling

The table accompanying this article on page 96, exhibits the infant mortality for certain age groups and for certain diseases. As is usual, the deaths of infants are crowded into the first few weeks of life. More than half the deaths occurred in infants under one month. The rates per 1,000 living births for age groups and certain causes, with their chance dispersions, follow for the past four years, and for 1916.

Age	1925	1924	1923	1922	1916
Under 1 Day	14.1± .7	15.0± .7	14.3± .7	13.7± .7	21.4± .8
Under 1 Week ..	28.8± .9	30.2±1.0	30.9±1.0	28.3± .9	31.2± .9
Under 1 Month ..	39.6±1.2	40.3±1.1	42.0±1.2	39.7±1.2	44.6±1.2
Under 6 Months	59.3±1.5	57.4±1.4	62.4±1.4	62.3±1.4	77.0±1.5
Under 1 Year	73.6±1.5	68.7±1.4	76.5±1.6	77.1±1.5	100.8±1.7
Cause					
Premature Birth	17.9± .8	19.0± .8	19.1± .8	17.3± .9	20.1± .8
Broncho Pneumonia	7.7± .5	6.9± .5	8.2± .6	9.5± .6	8.9± .5
Diarrhoea	8.3± .5	8.1± .5	8.6± .5	11.3± .6	23.1± .8
Injury at Birth ..	5.1± .4	6.1± .4	5.8± .5	5.0± .4	
Malformation	6.2± .4	5.0± .5	5.4± .4	6.0± .5	4.6± .4
Congenital Debility	5.0± .4	5.4± .4	5.4± .4	4.9± .4	7.1± .4
Whooping Cough	2.2± .2	1.2± .2	2.0± .3	1.4± .2	2.5± .3
Convulsions	.6± .1	.3± .1	.5± .1	.7± .1	1.3± .2
Acute Bronchitis	1.1± .2	.9± .2	1.2± .2	1.5± .3	2.4± .3

(All rates in this table are per 1,000 living births for each year.)

Examining first the age group rates, the rates for the past four years are remarkably uniform for the deaths under one day. The variation in each year is contained within the limits of the chance variation, or very nearly so. With respect to 1916 there is a difference in rates of 7.3±1.1 showing that a significant reduction has been made. This is not so for the next age group analyzed, namely, deaths of infants under one week. Here the rates are sensibly the same for the five years investigated. Whatever differences there may be are of no significance.

There is also but little change in the rates for deaths under one month for the past four years. However, comparing 1925 with 1916 there is a reduction of rate equal to 5.0±1.7 and this appears to be significant.

The rates for deaths under six months give little evidence of change in the four years past, but with respect to 1916 there has been a reduction of 17.7±2.1 which is of very decided significance.

Similarly, with the rates for deaths under one year there is no significant change in the immediate past, with the possible exception of 1924. With respect to 1923, 1924 is 7.8 ± 2.1 lower. The increase of 1925 over 1924 is 4.9 ± 2.1 and is hardly to be considered significant. With respect to 1916, however, there is a gratifying reduction in 1925 amounting to 27.2 ± 2.1. This is the most significant reduction in the rates under discussion.

To recapitulate, 1925 with regard to 1916 saw a decided reduction in infant deaths under one day, no reduction for deaths under one week, apparently a reduction for deaths under one month and a most decided reduction for deaths under six months and under one year.

The headway gained in reduction of deaths under one day has been lost in arriving at deaths under one week. For the past four years this rate, that is, for deaths under one week, has been very nearly the rate for deaths under one day increased 100 per cent. In 1916 the rate for deaths under one week was the rate for deaths under one day increased by 50 per cent. This seems to be due to the fact that in 1925 almost exactly 40 per cent of the total infant deaths occurred in the first week of life, whereas, in 1916, only (only used advisedly and relatively) 30 per cent of the total deaths occurred in the first week. Quite naturally the rate in 1925 would increase more rapidly than in 1916.

Another conclusion to be drawn from the figures is the fact that no markedly pronounced reduction has been effected up to the first six months of life.

The discussion of the causes of infant deaths and their rates need not be long. The uniformity of the rates in all causes except diarrhoea is remarkable. This statement is to include 1916. Referring 1925 to 1916 a reduction of $14.8 \pm .9$ is to be noted in diarrhoea which is very significantly noteworthy. Rates for causes other than the above would give results too small to be considered.

Calculating the average age at death of infants dying under one year is very apt to give results which are misleading. For example, if infant deaths late in the year are being reduced the inevitable effect must be to **reduce** the average life at death. As the results for 1925 now stand, the average age at death for infants dying in the first year of life was 78 days. If we should drop out the 399 who died in the second six months, the average life would then be only 36 days, showing the great effect of weighting at the end of the series.

CONNECTICUT INFANT MORTALITY-1925

Causes of death	Under 1 day	1-2 days	2-3 days	3 days-1 week	Under 1 week	1-2 weeks	2-3 weeks	3 weeks-1month	Under 1 month	1-2 months	2-3 months	3-6 months	Under 6 months	6-9 months	9-12 months	Total
All causes	423	183	102	157	865	141	100	83	1,189	176	123	290	1,778	218	181	2,177
Measles	....	....	....	....	....	....	....	....	....	....	....	1	1	4	8	13
Scarlet Fever	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Whooping Cough	....	....	....	....	....	....	....	....	....	8	10	19	37	20	9	66
Diphtheria	....	....	....	....	....	....	1	....	1	....	....	....	1	2	5	8
Influenza	....	1	....	....	1	....	....	2	3	2	2	7	14	10	9	33
Dysentery	....	....	....	....	....	1	....	....	1	....	....	1	2	....	....	2
Erysipelas	....	....	....	....	....	1	1	1	3	5	1	2	11	....	1	12
Poliomyelitis	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1
Encephalitis	....	....	....	....	....	....	....	....	....	1	1	....	2	....	1	3
Tetanus	....	....	....	....	....	1	....	....	1	....	....	....	1	....	....	1
Pulmonary Tuberculosis	....	....	....	....	....	....	....	1	1	....	....	1	2	1	1	4
Tuberculosis of the Meninges	....	....	....	....	....	....	....	....	....	....	....	4	4	6	2	12
Tuberculosis, other forms	....	....	....	....	....	....	....	....	....	2	....	1	3	....	....	3
Disseminated Tuberculosis	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
Syphilis	3	2	1	2	8	3	1	....	12	2	....	6	20	....	....	20
Simple Meningitis	....	....	....	1	1	1	1	....	3	2	1	6	12	1	....	13
Cerebrospinal Meningitis	....	....	....	....	....	....	....	....	....	1	....	....	1	....	1	2
Convulsions	....	....	1	4	5	....	1	1	7	....	2	5	14	1	3	18
Heart diseases	....	....	....	....	....	1	2	1	4	....	1	....	5	....	....	5
Acute bronchitis	....	....	....	....	....	4	2	3	9	8	6	5	28	....	5	33
Broncho Pneumonia	1	....	1	4	6	7	12	14	39	25	19	59	142	48	41	231
Lobar Pneumonia	....	2	1	....	3	2	2	1	8	5	5	13	31	20	18	69
Diseases of stomach	....	....	....	1	1	....	1	2	4	1	4	9	18	2	2	22
Diarrhoea & Enteritis	....	....	1	2	3	6	9	13	31	23	28	79	161	44	43	248
Malformations	39	18	12	24	93	21	13	8	135	21	9	12	177	5	4	186
Congenital debility	5	12	7	17	41	18	12	8	79	23	15	15	132	13	4	149
Premature Birth	261	96	31	39	427	34	27	16	504	22	5	5	536	3	....	539
Injury at birth	62	32	20	19	133	13	3	....	149	3	....	....	152	....	....	152
Early infancy	41	18	17	23	99	12	3	2	116	1	1	....	118	1	1	120
Infanticide	3	2	2	1	8	1	....	....	9	1	....	....	10	....	....	10
Ill defined	4	....	6	16	26	14	9	9	58	17	12	40	127	36	21	184
Not specified	4	....	2	4	10	1	....	1	12	3	1	....	16	....	1	17

PLANT A GARDEN AND GROW HEALTH

By Elizabeth C. Nickerson

The mind naturally turns to green things at this time of the year. Some gardens are already yielding their first contribution to the family table in the shape of green onions, radishes and rhubarb. The seed catalogues have long since replaced the latest fiction on the library table, and family conferences on "what shall we plant in the garden?" are running a close second to those on spring clothes. Every garden should grow a variety of vegetables as each has an important part to play in the sum total of nutritive elements needed by the body.

Vegetables may be classed together in various groups, those of a succulent nature, those of a starchy nature and those of a coarse fibrous nature.

How to Know Them

Vegetables of a succulent nature. In this class should be mentioned the green leafy vegetables such as spinach, chard, kale, dandelions, beet greens, cabbage, lettuce and string beans. These, with milk, have been called the "protective foods." While they are chiefly water and so add freshness to the diet, especially those which are eaten raw, these deserve a high place in the diet because of their mineral and vitamin content. They form rich sources of vitamins A and B, and of vitamin C if used raw, such as raw cabbage and lettuce. Vitamin A is richest in the leaves where it is claimed by McCollum to have been formed in connection with this highly functioning plant tissue. Steenbock through his investigations associates the richness of vitamin A with the yellow and green coloring matter of plants. So the green outer leaves of cabbage and lettuce are richer in vitamin A than the white inner leaves, and the green leaves and stalks of celery than those that are blanched. Tomatoes, although really a fruit, should be mentioned here since they contain such large amounts of vitamin A, B and C. They compare with the green leaves as to their richness in vitamin A, and with oranges and lemons for their vitamin C content.

These green succulent vegetables are also rich in iron, spinach holding the highest place in this regard.

Vegetables of a starchy nature include potatoes, peas, beans and corn. These are valuable for the energy which they supply, but at the same time they add to the mineral content of the diet. When young these vegetables contain more sugar,

which, as they mature, changes to starch and is stored as such. Peas and beans, dried, are similar to the whole grains, though they contain a higher percentage of protein of fair quality and are richer in iron. Because of their high protein content they can safely replace some of the meat in the diet having the added advantage of being also rich in iron, phosphorus and calcium. Potatoes while low in iron are an important source of iron due to the liberal use of this vegetable in the diet. This is also true of the vitamin C content of potatoes. These vegetables are all an important source of vitamin B.

Vegetables of a coarse fibrous nature include carrots, beets, parsnips and turnips. These are the root vegetables and, while not important as sources of energy, their liberal use adds greatly to the mineral content of the diet, particularly the calcium and phosphorus. These vegetables are not rich sources of the vitamins, though carrots seem to contain more than the others particularly vitamin A, which points to its possible biologic relationship with plant pigmentation as suggested by Steenbock. These vegetables, and onions as well, would be important sources of vitamin C were they eaten raw. This has been demonstrated by the use of the raw expressed juice as the source of vitamin C in child feeding.

Why They are Healthful

Vegetables may well be called **essential to health** because, beside having a high mineral content, they are rich sources of the vitamins which have such a profound influence on the health.

Vitamin A, found in the fat of whole milk, butter, egg yolk, *green leaves*, and glandular organs, is essential to growth. Complete absence from the diet arrests the growth of young animals, and often results in a peculiar eye infection.

Vitamin B, is found in whole grains (in which the germ as well as the bran coats are present), in milk, vegetables, fruits, and yeast. Like vitamin A it is also essential to growth, and when absent a severe nervous disorder results. Vitamin B has some influence on appetite since its absence leads to loss of appetite and failure to take sufficient food.

Vitamin C is the vitamin which cures or prevents scurvy. In the very young it may also influence growth. It is found in fruits and green vegetables and is easily destroyed by heat, so the use of salads and raw fruits or fruit juices is a safeguard. An exception to this is found in tomatoes which retain their vitamin C content after cooking, canned tomatoes being equal to raw tomatoes in this respect.

How to Prepare Them

Vegetables whether root, flower, stem, or leaf should be cooked in the smallest amount of water, and only long enough to soften the fibre and so make them more digestible. By cooking vegetables with their skins on, more of the nutrients are retained since there is less chance for these to be extracted by the cooking water. This is reduced to the minimum when vegetables are steamed over boiling water, or the amount of water so regulated that there is very little left when the vegetables are cooked. They should be closely covered while cooking and should be cooked rapidly to retain the color and flavor. The common habit of adding soda to soften the fiber and enhance the color should be discarded as experiments have proven that soda also destroys the vitamins.

As soon as the vegetable fiber is soft enough to be pierced with a fork, vegetables should be drained at once, seasoned properly and served hot. While the addition of a white sauce made of milk may increase the food value of vegetables, this should not become the custom as the true flavor of the individual vegetable is thereby concealed. Color and texture of well cooked vegetables adds to the attractivenss of any meal.

In order to make the fullest use of the vegetable nutrients the pulps and the liquid in which they are cooked, may be combined with milk as a cream of vegetable soup. Any vegetable may be used in this way, carrots, onions, celery and spinach. The vegetable should be cooked in a small amount of water until tender, then drained, retaining the liquid (of which there should be only a small amount) and the pulp rubbed through a sieve to relieve it of coarse fibrous particles. Pulp and liquid combined are then added to hot milk which has been thickened with flour (2 level tablespoons flour for each cup of milk) the whole seasoned with salt, and served hot. These soups are very valuable dishes for children, as the vegetable pulp is finely divided and it contains nutrients in easily digested form.

When to Use Them

The daily use of green or root vegetables will do much to relieve a condition of constipation, that sluggishness of intestinal action which needs stimulation by roughage in the food, and by exercise.

Every family should get the vegetable habit using at least one green or root vegetable a day beside potatoes. Vegetables in the daily diet through their mineral content add alkalinity which helps to balance the acids resulting from an excess of protein, sugar and starches in the diet.

FUMIGATION IN THE DISCARD

At the March meeting of the New Haven County Public Health Association, the following resolution was adopted:

"In view of the fact that the best modern sanitary standards no longer require gaseous fumigation as a means of control of communicable diseases, and of the increasing evidence as to the lack of value of this measure, and of the false sense of security established in the public mind, and the value of concurrent disinfection of body discharges, be Resolved that: It is the sentiment of the New Haven County Public Health Association that gaseous fumigation as a means of control of communicable diseases may well be discontinued; fumigation to be used as a routine procedure only in insect borne diseases. Reasonable terminal cleansing on the termination of a case, however, should be carried out."

The New Haven County Public Health Association has done well to once again emphasize the needlessness of fumigation but necessity of disinfection following cases of communicable diseases. Time was when this method was practiced by all public health officials supposedly as a health precaution but during the last twenty years the public has become more and more convinced that fumigation so used is not efficient.

Doubt as to its value arose in the minds of certain public health officials twenty years ago, and experiments have shown that there are nearly as many cases developing after a disease in fumigated as in unfumigated rooms. Wood in Hygeia has recently stated that in Providence during a five year period there was a ratio of 1:52 recurrences of scarlet fever in fumigated homes as against 1:62 cases in unfumigated homes.

Germs do not live long outside the body unless they are kept moist and have access to some nutritive material. So rooms and furniture and objects do not harbor the common disease germs which are only active in the nose and throat, except possibly tuberculosis or in the body discharges of patients such as sputum, nose material, feces and urine. Isolation of patients, detection and isolation of carriers who carry disease germs in their throats or noses without themselves showing symptoms of the disease, thorough disinfection of all body discharges of patients and a general clean up with hot water and soap and liquid disinfectants, are the effective measures for controlling the spread of disease by infected objects.

Persons can secure advice on the subject of disinfectants and fumigation by writing to the State Department of Health, Hartford, Conn.

NEWS NOTES FROM THE FIELD

Appointments of Health Officers by County Health Officers:

Mr. John R. Lee has been appointed health officer of New Hartford, succeeding Dr. C. F. English.

Charles S. Rankin, M. D., has been appointed health officer of Glastonbury, succeeding T. B. Ackerly, M. D.

Dr. A. J. Finn is acting health officer of Waterbury, filling the vacancy caused by the death of Dr. T. J. Kilmartin.

Public Health Nursing:

During the past month county meetings for public health nurses were held at four of the state Tuberculosis Sanatoria; "Cedarcrest," Hartford; "Laurel Heights," Shelton; "Undercliff," Meriden; and "Uncas-on-Thames," Norwich. There has been an attendance of 140 nurses and directors. The program for each meeting included a discussion of the medical care by the superintendent of the sanatorium, and the nursing care of tuberculosis led by a public health nurse.

The meetings were not only of educational value, but the group had the opportunity of seeing the sanatoria, visiting some of the patients, and many learned for the first time and at close range what Connecticut is doing for its residents ill with tuberculosis. These meetings planned by the State Department of Health are the first of a series to be held at the different state institutions.

Durham is the latest town in the state to supply itself with one of the necessary services, public health nursing. Its first public health nurse, maintained by the Durham District Nurse Association, Inc., began work, February 18, 1926.

Swimming Pools:

Following up the recent swimming pool survey of Connecticut conducted by the Bureau of Sanitary Engineering of the State Department of Health, a circular letter was forwarded in the past month to all swimming pool operators in the state. With this letter were sent these enclosures: (1) two bulletins containing articles on swimming pools, as covered in the December conference of the swimming pool operators and this department; (2) list of equipment for control of alkalinity and residual chlorine determinations; (3) directions for use of this equipment; (4) suggested forms on which to record routine operating and control data; and (5) suggested rules and regulations for posting at the pool.

Laboratories

SUMMARY OF BUREAU ACTIVITIES FOR MARCH, 1926

DIAGNOSTIC

	+	—	?	Unclass-ified	Total	
Typhoid	2	51	....	....	53	
Paratyphoid A	....	53	....	....	53	
Paratyphoid B	3	50	....	....	53	
Diphtheria	427	2,168	....	....	2,595	
Diphtheria Virulence	13	80	....	....	93	
Vincent's Angina	1	381	....	....	382	
Haemolytic Streptococci	9	373	....	....	382	
Tuberculosis	19	109	....	....	128	
Syphilis	310	1,688	245	....	2,243	
Gonorrhoea	24	100	....	....	124	
Pneumonia	9	....	....	....	9	
Rabies	1	6	....	....	7	
Special specimens	1	17	....	3	21	6,143

CHEMICAL AND BACTERIOLOGICAL

Milk samples	272	
Water samples	172	
Sewage samples	35	
Ice samples	2	
Oyster samples	2	
Clinical thermometers examined	49	532
Total examinations made		6,675

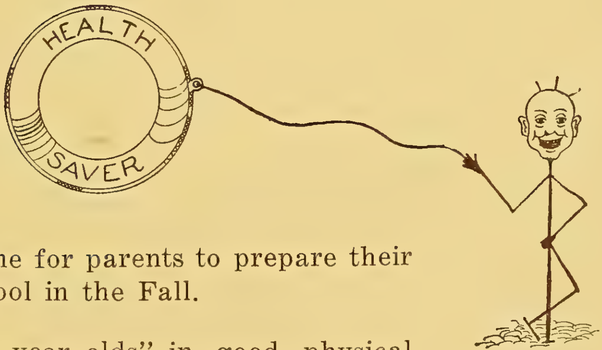
Increase in Blood Samples Sent to Laboratories

The 2,243 examinations of blood samples for syphilis is the highest number examined for any month of any year in these Laboratories since the complement fixation test was begun in 1923. The month most nearly approaching it is January of this year with 2,009 specimens. In September, 1925, an increase in number of Wassermann specimens occurred, amounting to 500 specimens more than were examined in August, the month previous. Each month since then has shown a big increase over any previous corresponding month of the year, until in March the largest number of specimens ever examined was received.

This large increase in the number of specimens received would indicate that the importance of syphilis is being real-

ized. The Division of Venereal Diseases of the State Department of Health for the past several years has continued the strong educational program bringing out the merits of a routine Wassermann examination. Through its abstract service on syphilis furnished the physicians of the state; by its advising of the general hospitals of the state as to the value of routine Wassermanns, and lately by its industrial program and calling the attention of the manufacturers to the economic loss caused by syphilis in industry, and advising a physical examination including the Wassermann test on all applicants for employment, these have doubtless resulted in the increased number of specimens sent to the laboratories.

It is assumed that with the ever increasing interest shown in this disease by the physicians that the number of specimens will continue to increase.



Now is the time for parents to prepare their children for school in the Fall.

Place the "5 year olds" in good physical condition.

Have any physical defect corrected now.

Have the youngsters immunized against diphtheria and smallpox.

DO IT NOW

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF MARCH, 1926

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of March, 1926, with the corresponding month for the years 1921, 1922, 1923, 1924 and 1925.

DISEASE	Average 1921-1925 for March	Mean 1921-1925 for March	1921	1922	1923	1924	1925	1926
Cerebrospinal Meningitis ..	8	9	6	14	9	7	3	4
Diphtheria	245	259	295	271	259	195	206	190
Encephalitis Epidemic	12	6	16	6	29	6	4	2
Measles	869	782	830	776	1,327	782	632	4,670
Poliomyelitis	1	2	2	1	1	2	....	3
Scarlet Fever	554	588	588	366	372	806	637	426
Smallpox	30	29	1	115	6	29	....	....
Typhoid Fever	12	12	14	11	9	12	12	6
Tuberculosis Pulmonary ..	142	142	174	142	144	125	124	146
Whooping Cough	239	253	316	145	253	187	292	503

A comparison of the morbidity on these diseases for the two preceding months, January and February with the March record is as follows:

	January	February	March
Cerebrospinal Meningitis	....	1	4
Diphtheria	185	183	190
Encephalitis Epidemic	4	4	2
Measles	2,600	2,591	4,670
Poliomyelitis	....	1	3
Scarlet Fever	338	331	426
Smallpox	....	....	....
Typhoid Fever	12	11	6
Tuberculosis (pulmonary)	123	103	146
Whooping Cough	332	281	503

Cases of Other Reportable Diseases

Chickenpox	294	Septic Sore Throat	4
Conjunctivitis Infectious	9	Trichinosis	1
Encephalitis Epidemic	2	Gonorrhoea	81
German Measles	49	Syphilis	103
Influenza	889	Chancroid	3
Mumps	71		
Paratyphoid Fever	1	Total	1,507

Cases of Occupational Diseases

Dermatitis	2	Lead Poisoning	1
Eczema	1		
		Total	4

Cases of Certain Reportable Diseases

March, 1926	Population Est. as of July 1, 1926	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Broncho-Pneumonia	Other Com. Diseases
State Total	1,558.996	61	4670	426	503	190	4	3	146	15	439	396	1507
NEW HAVEN CO.	**467,392**	**3**	**599**	**192**	**145**	**85**			**40**	**3**	**100**	**80**	**366**
New Haven	181,823	2	198	72	91	6			22	3	37	20	177
Waterbury	104,047	1	61	22	5	12			5		14	15	53
Meriden (city and town)	36,529		246	36	9	8			5		26	19	33
Ansonia	19,291			1	1	3			1				6
West Haven	18,334		3	20					1		5	15	24
Naugatuck	16.589												
Wallingford (town and boro)	12,571		18	2		5							
Milford	14,073		37	15							11	8	7
Derby	12,732					1							
Hamden	10,434		11	18	31	47			2		5	2	35
Branford (town and boro)	7,014		2			1			1				5
Seymour	8,116												
Towns under 5,000	25,839		23	6	8	2			3		2	1	26
FAIRFIELD CO.	**371,561**	**1**	**589**	**119**	**68**	**35**		**1**	**37**	**3**	**66**	**76**	**204**
Bridgeport	170.717		34	77	31	19			22	3	42	52	94
Stamford (city and town)	47,373		104	5	4	8			6		6		26
Norwalk	29,859		87	1	8	2					5	1	18
Danbury (city and town)	21,931			1		3			1			1	1
Greenwich (town and boro)	25,790	1	25	5	5	1		1	4		6	16	12
Stratford	16,768		9	10	6	1			1		5	2	2
Fairfield	15,041		36	9	3				2		1		3
Shelton	11.398			1					1				1
Westport	5,685		2	1		1							
Towns under 5,000	26,999		292	9	11						1	4	47
HARTFORD CO.	**393,501**	**1**	**837**	**45**	**171**	**36**	**1**		**45**	**6**	**125**	**93**	**295**
Hartford	164.228		232	17	36	23			22	5	48	31	80
New Britain	69,482		8	8	8	1			5	1	15	17	84
Bristol (city and town)	25.354		1		33				8		7	11	30
Manchester	21,505		91	7		2			1		12	5	16
Enfield	13,039	1	4	3	19	2					5	3	8
East Hartford	13.950		33	4		1	1		1		3	2	3
Southington(town and boro)	9,727		75		1	2			1		6	1	4
West Hartford	11,562		213	1	8				3		3	6	43
Windsor	6,584		47								3	1	4
Glastonbury	6,124		29						1		3	2	
Wethersfield	5,141		18	3	2	1					1		7
Towns under 5,000	46,805		86	2	64	4			3		19	14	16
NEW LONDON CO.	**113,554**	**1**	**772**	**49**	**37**	**9**	**3**		**16**	**1**	**22**	**17**	**113**
Norwich (city and town)	30,576		5	4	1	3			9	1	2		83
New London	29,566		550	34	7				1		7	6	8
Stonington (town and boro)	10,930		1		2	1	1		1		3	5	
Groton (town and boro)	11,045	1	68	6	7	3			2		2	1	7
Towns under 5,000	31.437		148	5	20	2	2		3		8	5	15
LITCHFIELD CO.	**80,282**		**1496**	**6**	**36**	**3**			**2**	**1**	**4**	**6**	**403**
Torrington (town and boro)	24,929		1237	1	34	1			2	1			26
Winchester (inc. Winsted)	9,074												
Plymouth	6.364		22	4							1	1	
Watertown	7.359		61	1							2		303
Towns under 5,000	32.556		.176		2	2					1	5	74
WINDHAM CO.	**55,799**		**135**	**9**	**10**	**12**		**1**	**4**		**14**	**10**	**59**
Windham (inc. Willimantic)	14,391		59	2	3	1			1		5	2	12
Putnam (city and town)	9,105		1			10					4		8
Plainfield	8,694		5		3				2				1
Killingly (inc. Danielson)	9.218		13					1				2	19
Thompson	5.203		5		1						1		2
Towns under 5,000	9,188		52	7	3	1			1		4	6	17
MIDDLESEX CO.	**49,185**		**90**	**4**	**36**	**9**		**1**	**2**	**1**	**105**	**112**	**58**
Middletown (city and town)	22,891		30		28						100	105	4
Middletown State Hospital									2				9
Towns under 5,000	26,294		60	4	8	9		1		1	5	7	45
TOLLAND CO.	**27,722**		**152**	**2**		**1**					**3**	**2**	**9**
Vernon (inc. Rockville)	8,787		57									1	
Stafford (town and boro)	5,454		14								1		3
Towns under 5.000	13,481		81	2		1					2	1	6

Vital Statistics

MONTH OF FEBRUARY

TOTALS TO DATE, FIRST TWO MONTHS OF 1926

	Births	Birth Rate*	Marriages	Mar. Rate*	Deaths	Death Rate*
1926	4,500	17.3±0.1	1,431	5.5±0.06	3,175	12.2±0.1
1925	4,877	19.1±0.1	1,597	6.3±0.06	3,194	12.5±0.1
1924	5,167	20.6±0.1	1,656	6.6±0.06	3,161	12.5±0.1

*Rates per 1,000 population annual basis.

The figures above give the totals for January and February for the past three years and show the actual numbers and rates per 1,000 population. The decline of the birth rate is noteworthy as is also the decline of the marriage rate. The death rate is less in 1926 than in 1925 and 1924. The decrease is 0.3 ±0.14 and is hardly to be considered of great significance. However, it may be advance notice of a favorable year, and if any great reduction of deaths is to be made it will have to be brought about in the relatively unfavorable winter months.

Births

A glance at the figures showing the six year summary for this month will clearly indicate the steady decline of the birth with the exception of 1924 when there was a brief pause, caused, no doubt, by the extra day due to Leap Year. The birth rate in 1926 has reached the astonishing value of 15.3 per 1,000 population. This will of course be increased to some extent by late reports but not in amount sufficient to raise it above 16.0 per 1,000 it is believed.

The figures are very erratic. The mean number of births 1921-1926 both inclusive is 2,400±99. The standard deviation, or scattering about the mean is 237±68, indicating marked fluctuation.

There are 48 towns in Connecticut over 5,000 in population. In 18 of these towns more births were reported in 1926 than in 1925 but in only 2 was the increase greater than 10. These towns are Hartford, with an increase of 32±24 and New London with an increase of 27±10. Of the two, the increase for New London is probably significant. That for Hartford is what might be expected to arise from pure chance.

For 1926, 74 stillbirths were reported, or at the rate of 35.8 ±4.3 per 1,000 **total** births. In 1925 the figures were 78 stillbirths and the rate was 33.2±3.6. While there has been a slight increase in 1926, it is of no significance. The sex distribution for the month in 1926 was, male 40 and female 34. The sex ratio here is 117.6 males to 100.0 females. Expressed in terms of probabilities the chance of a stillbirth being a male was 40/74 or 0.540 and the chance of a stillbirth being a female was 0.460. Expressed per 1,000 stillbirths and calculating the chance dispersion gives 540±86 males to 460±81 females. The difference here is 80±118 in favor of a male stillbirth, but the dispersion shows that for this month alone there is no significance. Adding the January stillbirths and those for February gives the following sex distribution per 1,000 stillbirths: Male 548±55; female 452±50. The difference here is 96±75. This is still not a significant sex difference, but it will become significant before the year is finished. It may be of interest to follow this sex analysis through the year and note the turning point of significance. The prophesy that the figures will become significant is based upon past experience. Analyzing the stillbirths over the period 1890-1918 gives the following: 28,493 stillbirths were reported of which 16,801 were males and 11,692 were females. The probabilities involved in this case are, for a male stillbirth, 0.5896±.0045, and for a female stillbirth 0.4104±.0038. These may be easily changed to the basis of 1,000 still births and then the distribution will be, male 590±4.5; female 410 ±3.8. The difference here in favor of the male is 180±6 per 1,000 stillbirths and shows that there is a tendency for stillbirths to run toward the male and that this tendency is of great significance. The sex ratio of males to females is 144 males to 100 females.

Deaths

The deaths for the month increased slightly over those for 1925, there being 1,513 this year as against 1,507 a year ago. This difference of 6 is not significant. Actually, there was a lowering of the death rate by 0.2 point. It will be noted that during the past six years the rate for this year is the lowest to appear. The mean number of deaths is 1,611±57 and the standard deviation is 138±39. The standard deviation gives evidence of no inconsiderable fluctuation.

Below is given a comparison of 1926 and 1925 for certain causes of deaths.

Cause of Death	1926	1925	Increase	Decrease
Disease of heart	245±16	198±14	47±21	....
Epidemic encephalitis	3± 2	2± 1	1± 2	....
Pneumonia undefined	3± 2	2± 1	1± 2	....
Typhoid fever	2± 1	2± 1	....	....
Measles	37± 6	0	37± 6	....
Scarlet fever	4± 2	7± 3	....	3± 4
Whooping cough	11± 3	5± 2	6± 4	....
Diphtheria	14± 4	17± 4	....	3± 6
Influenza	38± 6	62± 8	....	24±10
Tuberculosis, pulmonary	94±10	84± 9	10±13	....
Tuberculosis, other forms	9± 3	10± 3	....	1± 4
Cancer	129±11	114±11	15±16	....
Cerebrospinal Meningitis	0	0	....	....
Poliomyelitis	1± 1	1± 1	....	....
Lobar pneumonia	98±10	108±10	....	10±14
Broncho pneumonia	57± 8	84± 9	....	27±12
Diarrhoea & enteritis				
Under 2	15± 4	16± 4	....	1± 6
Puerperal diseases	12± 3	10± 3	2± 4	....
Accident	69± 8	66± 8	3±11	....
Suicide	14± 4	18± 4	....	4± 6
Homicide	2± 1	5± 2	....	3± 2
Other causes	656±26	696±26	....	40±37
Total	1,513±39	1,507±39	122	116

The feature which stands out most prominently in the figures above is the increase in deaths from measles. During the month 2,591 cases were reported as against 259 in 1925, in which year, it will be noted there were no deaths from measles. Last month there were 39 deaths from measles among 2,600 cases. The fatality rate, that is the per cent of cases resulting in death, was, for January, 1.5 and for February it was 1.4. In January 37 of the 39 deaths occurred in children under 10 years of age as follows: Under 1 year 11, between 1 and 2 years, 10; between 2 and 4 years, 10; and 5-9 years, 6. It will be noted that 31 of the deaths are under 5 years. For February the figures are very similar except an increase in the group 1-2 years. There were 9 deaths under 1 year; 13 deaths between 1 and 2; 9 between 2-4 years and 6 in the age group 5-9. All 37 deaths occurred in children under 10 years and 31 of them under 5.

An increase will be noted in diseases of the heart. This increase is somewhat greater than what might be expected to arise from pure chance, but there is no alarming feature.

Of the decreases, there are two worthy of note, that for influenza and also that for broncho pneumonia. As there has apparently been a rather marked increase in influenza in other parts of the country the state is fortunate in experiencing an apparently significant decrease.

The accidental deaths increased, but deaths from motor accidents decreased, there being 7 during the month as against 10 in 1925. Mathematically speaking, there is no significance in this decrease of 3, as the standard deviation is about 4, which is greater than the decrease. The heavy snows of the month had no apparent effect.

The infant mortality decreased slightly but by an amount of no statistical significance.

Marriages

The marriages fell off, to give the lowest marriage rate in the last six years.

For Six Years—February, 1926

CONNECTICUT	1921	1922	1923	1924	1025	1926
BIRTHS *Birth Rate*	2743 23.2	2563 21.2	2352 19.1	2479 19.8	2267 17.8	1993 15.3
DEATHS *Death Rate*	1455 12.3	1750 14.5	1837 14.9	1605 12.8	1507 11.8	1513 11.6
MARRIAGES *Marriage Rate*	745 6.3	796 6.6	715 5.8	836 6.7	812 6.4	688 5.3
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	195 13.4	326 18.6	334 18.2	205 12.8	178 11.8	201 13.3
DEATHS UNDER 1 YEAR *Rate Per 1,000 Births*	227 79.6	249 95.5	210 81.8	218 82.6	190 77.1	185 75.7

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis. Poliomyelitis, Influenza.

Births, Marriages and Deaths

February, 1926 Statistics	Population Est. as of July 1, 1926 Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Stillbirths	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,558,996	1993	74	688	1513	11.6	0.7	75.7	185	81	530
Ansonia	19,291	13	....	9	12	7.5	....	39.9	1	1	3
Branford	7,014	3	....	2	4	6.8	....	....	....	....	3
Bridgeport	170,717	221	9	76	153	10.8	0.1	106.2	29	11	36
Bristol	25,354	44	2	19	21	9.9	0.5	139.1	7	3	6
Danbury	21,931	39	2	11	31	17.0	2.2	69.4	3	1	12
Derby	12,732	27	1	5	12	11.2	....	54.4	2	1	....
East Hartford	13,950	12	2	7	12	10.3	....	161.1	2	1	3
Enfield	13,039	22	....	5	8	7.4	....	40.5	1	....	4
Fairfield	15,041	16	....	7	11	8.8	0.8	54.8	1	3	2
Glastonbury	6,124	3	....	2	7	13.7	1.9	153.8	1	....	2
Greenwich	25,790	31	1	38	16	7.4	0.5	25.2	1	....	3
Groton	11,045	4	....	4	11	12.0	1.1	88.9	1	....	7
Hamden	10,434	12	....	3	12	13.8	1.2	....	....	1	5
Hartford	164,228	306	18	86	169	12.3	0.9	47.5	16	9	55
Killingly	9,218	11	....	2	17	22.1	1.3	183.7	3	....	9
Manchester	21,505	37	....	3	13	7.3	0.6	52.5	2	....	3
Meriden	36,529	34	2	13	40	13.1	1.3	85.9	5	3	11
Middletown	22,891	....	....	....	27	14.2	....	39.8	2	3	10
Milford	14,073	....	....	....	7	6.0	....	71.9	1	1	2
Naugatuck	16,589	9	....	3	7	5.1	....	142.0	2	....	1
New Britain	69,482	103	5	40	55	9.5	0.2	51.0	7	3	11
New Haven	131,823	276	11	103	190	12.5	0.5	56.7	19	8	76
New London	29,566	64	1	23	33	13.4	1.2	61.8	4	1	10
Norwalk	29,859	38	....	10	39	15.7	0.8	16.9	1	....	21
Norwich	30,576	57	....	16	45	17.7	1.6	116.2	8	2	12
Plainfield	8,694	10	....	7	7	9.6	1.4	172.7	2	....	3
Plymouth	6,364	6	....	3	3	5.6	....	....	....	....	2
Putnam	9,105	8	1	7	14	18.4	....	209.6	4	....	5
Seymour	8,116	5	....	....	5	7.4	1.5	....	....	....	3
Shelton	11,398	12	....	4	15	15.7	2.1	....	....	2	1
Southington	9,727	10	1	2	9	11.1	....	129.7	2	1	2
Stafford	5,454	9	....	1	9	19.8	2.2	125.7	2	....	4
Stamford	47,373	68	1	39	55	14.4	1.0	81.4	8	6	19
Stonington	10,930	14	....	5	7	7.7	....	....	....	....	4
Stratford	16,768	16	....	2	10	7.2	0.7	51.5	1	3	5
Thompson	5,203	8	....	....	5	11.5	....	95.2	1	....	2
Torrington	24,929	37	3	12	24	11.6	0.5	67.6	3	3	9
Vernon	8,787	13	....	2	6	8.2	1.4	96.0	1	....	2
Wallingford	12,571	8	1	3	9	8.5	....	....	....	1	4
Waterbury	104,047	155	5	31	104	11.9	0.9	79.1	16	6	22
Watertown	7,359	7	....	2	7	11.4	....	155.8	1	1	1
West Hartford	11,562	14	1	2	13	13.5	....	125.6	2	1	2
West Haven	18,334	20	1	5	28	18.3	0.7	58.7	2	1	9
Westport	5,685	1	....	1	13	27.4	4.2	160.0	1	....	5
Wethersfield	5,141	4	....	2	6	14.0	2.3	....	....	....	1
Winchester	9,074	10	2	3	5	6.6	....	....	....	....	1
Windham	14,391	....	....	3	13	11.7	1.7	....	....	....	8
Windsor	6,584	3	....	2	4	7.2	....	122.4	1	....	3
Towns under 5,000	212,599	173	4	63	190	10.7	0.5	74.7	19	4	106

for the month of February, 1926

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
245	3	3	2	37	4	11	14	38	94	9	129		1	98	57	15	12	69	14	2	497	218
1						1	2				1			1	1	1						
1														1								
29		1		8		1	2	5	2		10			14	14			5	2		71	11
1								1	1		1			2	1		1				6	1
3									4	1	4			1		1	1	1			18	6
2				1							1			2	1			1			4	4
4															1			2				1
4								1														
					1		1		1		4				1							
									1					1	1	1			1			
4					1			2	1		1						1	3			5	1
1									1		1				1						2	1
1	1								1		1							1				2
31				5		1	1	1	9	2	13		1	12	8	2	3	13	2		90	46
3									1		1											
2											1			1	1	1		3			6	
9	1			3					2	1	6			5	2	1		1			11	6
6						1	2	1			3			1	3			1			19	15
1														1								
											1											
12						1		1	1	1	7			4	1			10			18	1
30			1		1	2	1	9	7	1	18			11	3		3	4	1		77	26
8				1				3	2		2			2		1		2			10	3
6									2		5			2	2			1			6	2
4				1		1		1	11	1	4			3	1						19	9
3											1											
											1				1							
1											2			1	1		1				4	2
1							1		1						1							
									10		1							1			9	8
3														1	1	2						
2								3	1										1		2	
10				7				1	2		4			5	2		1	1		1	17	5
1														1								
2				2			1				1			4								1
2											1											
			1			1	1		1		5			2				2			7	2
1		1																	1			
							1	1			3							1			2	
12				3		1	1	3	5	1	4			12	1	2	1	5		1	44	8
				1												1						1
2										1	3					2		2	1		4	3
2									10		2				2			1			13	11
1				1				1	2		1				1						3	3
									1		2								1			1
2														1					1		3	2
2									2												2	2
2				1																		
33	1	1		3	1	1		4	12		13			7	5			8	3		25	34

STOP

THE SPREAD OF DISEASE

By Starting

THAT ANTI-SPITTING CAMPAIGN

CARELESS SPITTERS MAY DROP THE GERMS OF

PNEUMONIA - TUBERCULOSIS

INFLUENZA - COLDS

ELIMINATE THE SPITTING EVIL

State of Connecticut Health Bulletin

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STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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CONNECTICUT'S NEED FOR CHILD HYGIENE WORK*

By A. Elizabeth Ingraham

Year after year teachers have been receiving among children entering school for the first time, many that have had unrecognized and uncorrected defects, the existence of most of which have been entirely unsuspected by the mothers. At home the children ran about, played, ate and slept as well as did the others. Why should she then connect the thought of illness or defect with them? Moreover, mothers do not have the teaching that would enable them to detect these things. Their training and experience in parenthood have not been along the lines of such technical details.

But when the child arrives at proper age he must go to school. After the first few days of adjustment to his new surroundings, he settles down to try to find out what this new experience is all about, and just how much teacher expects of him. What are these new lessons and what do they mean to him? He may or may not be quick to adapt himself to his new work. Some children come home from school radiating interest in what they have learned, eager to tell mother all about it, sure that never in her life has she ever heard anything quite so wonderful. One little man who had been in school only three months burst into the room with, "Oh, mother, I know everything."

But every child does not have the glorious sensation of knowing everything even after months of study. There is sure to be a number of entering pupils in every school who fail to become interested in their work to whom even the little school tasks are a heavy burden. They may manage to pass their tests and examinations, or they may become that most discouraging of all things, repeaters. Much of this failure on the

*Radio Talk Broadcast through WTIC, May 7, 1926.

part of children to pass their grades in school is directly traceable to some physical defect and not attributable, as we have formerly supposed, to mental inability to learn.

Hindrances to Mental Growth

Examination by the school doctor may bring out the fact that in the majority of these seemingly backward pupils there exists a very definite physical cause. There may be absorption from decayed teeth that is making it impossible for the little one to be attentive to studies. There may be discharging ears. Enlarged and diseased tonsils or adenoids may make it difficult for the little brain cells to function normally. Enlarged glands and marked undernourishment also play an important role. There may be a beginning deviation of the spine from its normal curves, because of some accident during baby play, or as the result of a fall during the run-about years. The hearing may not be quite perfect. Defective eyesight may make it difficult for your little child to see clearly the lessons put on charts or blackboards. Then, too, must be taken into account the sensitiveness on the part of such children to acknowledge failure to see or hear as quickly as the others, which can but give a wrong impression of their mental alertness to their teachers and the other pupils. Any one of these handicaps mentioned could easily account for much of the backwardness of school children.

To appreciate the value and importance of corrective work one has but to observe the condition of the child after the defect, once having been found, has been corrected. If, after the lapse of a few months following the removal of tonsils, the under-nourished child becomes normal in weight, we are justified in saying that the underweight was caused by absorption from the diseased tonsils. If the child who sits quietly like a little mouse in the corner a greater part of the day, is found to have a curvature of the spine, and if, after that curvature is corrected, it becomes a rollicking and healthy child, joyous in play, one has a right to think that the spine was the cause of all the trouble.

Defects Found in School Children

In one of our Connecticut rural schools having an enrollment of 270 pupils in its central building, examination of the children showed that 70 per cent of the number had dental defects, 40 per cent enlarged tonsils, 2½ per cent defective spines, 20 per cent defective vision, and 7 per cent were underweight. Intelligence tests were not applied to any of these

children so that it is not possible to give the per cent of pupils in this group that found school tasks difficult. It does show, however, the great call for regular examination of our children.

The burden of finding these defects should not be placed on the schools. Why wait until the time arrives when the parent receives a note from the school nurse or teacher saying that Johnnie has badly diseased tonsils, or that Sadie has headaches because her vision is not normal. Why not take steps to know Johnnie's or Sadie's physical condition before sending them to school on that all-important "First Day"?

Connecticut Child Health Work

To meet this need the Connecticut State Department of Health through its Bureau of Child Hygiene has been opening child health centers in various parts of the state for the past three years where young children of all classes may be brought for free monthly examination and inspection. A local doctor and nurse, if they are available, are in charge of the conference. If there is no resident doctor or nurse in the town the State Department of Health supplies them. If during the examination a defect is found, the child is at once referred to its family physician for medical or surgical treatment.

Three years' experience in this work has shown that repeated monthly examination and inspection of children is of prime importance. In this way their development can be watched and the nurse who does the follow-up work has an opportunity of making repeated visits with the mothers who are inclined to let matters drift. She tells the mother the importance of having defects corrected promptly. If the child is of preschool age this needed correction should be done before he is sent to school. The nurse also tries to show the mother that when the stress and strain of school duties are laid upon the little one he will need all of his energy to learn his lessons and adapt himself to school life. Another thing is explained, namely, that if the child goes to school with enlarged tonsils or is in an under-nourished condition he will be far more susceptible to any of the childhood diseases which, in spite of our best efforts, crop out from time to time in our schools. The mother is urged to do her part toward putting her child in such good physical condition that nature may ward off any disease going about in the community.

The main point to be kept in mind is, that if defects or wrong tendencies are found in early childhood, they must be attended to that they may not become crippling handicaps in adult life. During these growing years when children's minds and bodies

are like plastic clay let us be awake to their need of constant surveillance and proper guidance.

Facing the Facts

In 1925, 2,177 children under 1 year of age, and 731 children under 5 years died in Connecticut. There was a loss to the state of 142 mothers whose death was incident to childbirth. We cannot know the above quoted facts and close our eyes to the need of the state wide programme of maternal and child health work.

Wherever there are children, and they are everywhere, there is need of a Well Child Conference. The Connecticut State Department of Health already has fifty scattered thoughout the state; but their numbers should be increased and would be if our budget were larger. It is the right of every mother to have such a center near enough to which she can go for advice for her children and for herself.

Over 30,000 children are born each year in this state. How great are our responsibilities to these little new citizens! Are we going to turn lightly aside feeling that somehow things will take care of themselves, or are we going to acknowledge our duty to the future of our state and nation by shouldering our burden so cheerfully that it will become a privilege to work for our children. Watchful care should be begun at birth and kept up throughout life. Especially should careful and regular observation of the child be kept up during the preschool and the school years, since it is during these years that habits of a lifetime are formed.

The responsibility of the health and well-being of our children rests upon the parents and the community. The state that has clear enough vision to see the necessity of this child health movement, the community whose fathers and mothers are willing to lay aside their pleasures for a time and make a concerted effort to have their little ones prepared for the emergencies of life, by keeping them well through periodical examinations, will be the state and community whose children later on will rise up and call them blessed.

THE LEXIAN RATIO

By William C. Welling

From time to time in this bulletin and with reference to vital statistics, mention has been made of the Lexian Ratio. A brief explanation of this ratio is made in this article. In so doing a method of determining the Standard Deviation will also be shown. The Lexian Ratio will now be figured for the Infant Mortality Rates over the past five years.

Year	Rate Infant Mortality	1.	2.
1921	72.7	—0.9	0.8
1922	77.0	+3.4	11.6
1923	76.3	+2.7	7.3
1924	68.5	—5.1	26.0
1925	73.6	0.0	0.0
	368.1	+6.1	45.7
		—6.0	
		.1	

How to Find the Mean

Adding the column of infant mortality gives 368.1 Dividing this by 5 gives 73.62 which is, of course, the **mean** infant mortality rate over the period. Column (1) is found by subtracting from each item of the infant mortality, the mean infant mortality, i. e., 73.6. Note that the **true** mean is 73.62 but to avoid a little work, subtract 73.6. We would therefore find the items as follows: 72.7 less 73.6, giving a **negative** number, —0.9; then 77.0 minus 73.6 or +3.4 and so on. If we add the positive or + values in column (1) and then, separately, the negative or — values we get + 6.1 and —6.0. The difference between these is 0.1 and if this is divided by 5 (the number of items) we get 0.02 which is exactly the error in our **provisional** mean, which was taken as 73.6. Therefore our true mean is 73.6+0.02 or 73.62 just as we found at the start. We have thus **proved** the differences in column (1) and the value of the mean.

The Standard Deviation values in column (2) are the values in column (1) **squared,** that is, multiplied by themselves. Values in this column will always be positive for, by the law of algebraic signs, the product of **two** negative or two positive values will always give a positive. We would therefore have —0.9 times —0.9 which gives +0.81, but is quite accurate

enough. Similarly, 3.4x3.4 is 11.6 with sufficient accuracy. And so on. Adding column (2) gives a sum of 45.7 which in turn must be divided by 5, the number of items under discussion. If we were analyzing 50 years we would divide the sum by 50. It will be found that 45.7 divided by 5 gives 9.14. If extreme accuracy were desired it would now be necessary to make a correction in this. It will be recalled that the values in column (1) arose from subtracting a **provisional,** not **true,** mean from the items of infant mortality. If we had used the true mean no correction would be necessary. The correction is to subtract from the value of 9.14 found above the square of 0.02. This value of 0.02 is the difference in the + and — values, bottom of column (1), divided by 5. It is the difference between the true and provisional means. Squaring 0.02 gives 0.0004 and it would be useless to apply such a small correction. The discussion is given merely to show the procedure when the difference between the true and provisional means may be so great that the correction should be applied.

We have now found the **square** of the standard deviation of the series—it is 9.14. To find the actual standard deviation we have merely to extract the square root of 9.14 and the value 3.0 is near enough. This value, 3.0, is therefore the standard deviation of the series.

Chance Dispersion

The next value to be found is the dispersion due to pure chance. In the bulletin for August, 1925, this dispersion was discussed under the title "The Yardstick of Chance Fluctuation." This is easier to find in the case under discussion than the actual standard deviation. There were, on the average, during the past five years about 2,200 deaths of infants each year. These 2,200 deaths are subject to a chance fluctuation of 47. The 47 is merely the square root of 2,200. Now 47 is about 2.2 per cent of 2,200. We might say that the deaths were 2,200 +2.2 per cent. The same per cent fluctuation must be applied to the rate 73.6. Thus 2.2 per cent of 73.6 is 1.5. This 1.5 is the **chance** fluctuation of the rate. We found the **actual** fluctuation was 3.0 in the work above. The ratio of the **actual** dispersion to the **chance** dispersion is the **Lexian ratio.** Therefore the ratio of 3.0 to 1.5, or 2.0 is the Lexian ratio and means that the **actual** scatter is about twice what might be expected to arise from pure chance alone.

Another Method

Let us rewrite our whole calculation, using 70.0 as the **provisional** mean rate of infant mortality. This is done mere-

ly to show that correction will be necessary in the standard deviation, and also in the mean.

The work will look like this:

Year	Rate	(1)	(2)
1921	72.7	2.7	7.3
1922	77.0	7.0	49.0
1923	76.3	6.3	39.7
1924	68.5	—1.5	2.3
1925	73.6	3.6	13.0
		+19.6	111.3
		—1.5	
		+18.1	

The values in column (1) are those in the Rate column with 70.0 subtracted. Note that the Rate column need not even be added. The figures in column (1) are easier to add than in the Rate column. The differences, column (1), are easier to find than in the first method. For all these reasons this second method is preferable to the first.

Standard Deviations of the Mean and of the Standard Deviation

18.1 divided by 5=3.62. The **true mean** is therefore 70.0 **plus** 3.62 or 73.62 as before. 111.3 divided by 5 is 22.26. From 22.26 we have to subtract the **square** of 3.62 or 13.10. This gives 9.16 which is near enough to 9.14 found above. The 3.62 which was squared is the difference between 73.62 and 70.00 or the difference between the true mean and the provisional mean.

The mean rate of 73.6 has a standard deviation. The standard deviation, 3.0, has a standard deviation. These are found as follows: We have been analyzing 5 items. The standard deviation of the standard deviation is, for any example, its value divided by the square root of twice the number of items. For this example it will be 3.0 divided by the square root of 10 or 3.0 divided by 3.2 which is about 0.9. The standard deviation of a mean is the standard deviation divided by the square root of the number of items or 3.0 divided by 2.2 which is 1.4. We therefore get a mean infant mortality rate of 73.6±1.4 and a standard deviation of 3.0±0.9.

Death Rates and Probability

We have been dealing above with infant mortality rates. It is an important fact in vital statistics that it is possible to get some measure of the theoretical probabilities involved.

Thus, a death rate is really a probability expressed in units measuring the rate, be that 1,000 or 100,000. A death rate of 12.0 per 1,000 means that probably 12 will die in 1,000 people.

In general, other statistics do not admit of even an estimate of this theoretical probability, where by other statistics we mean economic statistics. Therefore it would be difficult if not impossible to get an inkling of the Lexian ratio in analyses of such statistics.

Significance of Lexian Ratio

The question might well be asked, when is the Lexian ratio significant? In the course of the analysis given above, the standard deviation of the series was found to be 3.0 ± 0.9. If this is divided by the chance dispersion of 1.5 we get the Lexian ratio with a standard deviation. Thus, we will get $2.0 \pm .9/1.5$ or 2.0 ± 0.6. This would indicate a significant Lexian ratio in as much as the value, 2.0, is more than three times its standard deviation.

The Lexian ratio shows how far a series departs from the normal. If the Lexian ratio is one, the series is normal; if the ratio is greater than one the series is said to be hypernormal, above normal; if the ratio is less than one the series is subnormal.

WALLINGFORD'S NEW SEWAGE TREATMENT PLANT

By Warren J. Scott

The sewage of Wallingford, Connecticut, has for many years been discharged without treatment into the waters of the Quinnipiac River. Most of the old system was built on the combined plan. In 1924 the borough authorities asked the State Department of Health for approval of construction of sanitary sewers for a large area to be discharged into the old system. In view of the undesirable method of disposal for the old plant, the Department granted approval only with the understanding that plans were to be started at once on a plant for treatment of the sewage of the borough.

Wallingford's New Sewage Treatment Plant

The plant was designed by William A. MacKenzie, Borough Engineer, endorsed by consulting engineers after which they were approved by this Department, and constructed under his supervision.

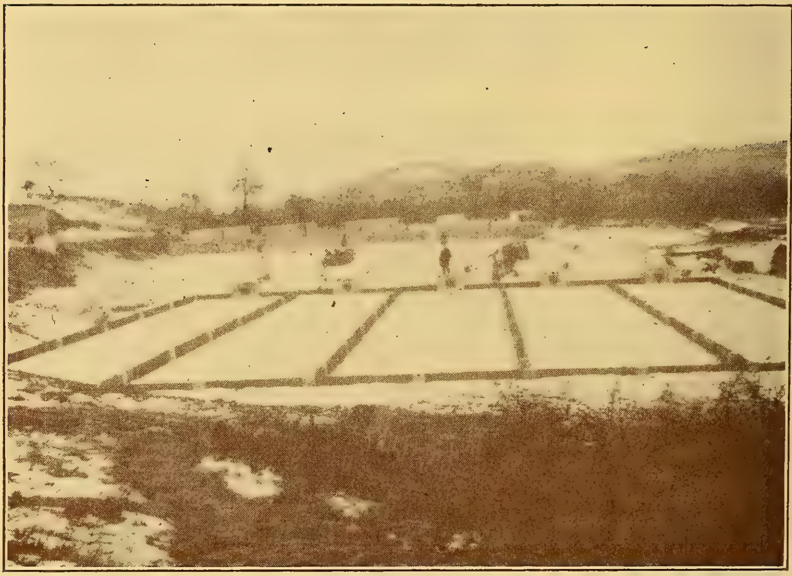
On April 6, 1926, the plant was placed in operation.

Wallingford's Need For a New Plant

The present population served by the plant is about 8,200 and the ultimate population designed for is 9,300. This population will undoubtedly be reached in less than ten years, judging by past growth. Allowances are made for enlargement of the plant in a few years.

Description of the Plant

The plant at present consists of a grit chamber with two units, coarse bar screens, two Imhoff tanks and sludge beds. As the system receives a large amount of storm water, an overflow manhole is provided for large storms. On April 7, 1926, the plant was inspected during a light rain and no sewage was overflowing.



Sludge Beds

Following are certain design elements used:

Description	
Measured flow, m. g. d.	1.2
No. of tanks in parallel	2
No. of flow chambers in each tank	2
No. of sludge hoppers in each tank	1
Length of tank inside, ft.	50
Width of each tank inside, ft.	28
Total liquid depth, ft.	22.4
Length of flow chamber, ft.	50

Width of flow chamber, ft.	9.5
Depth of water above slots, ft.	9.83
Slope of side walls of flow chamber, vert. to horiz.	1.4 to 1
Clear opening of slot, inches	7.5
Horiz. overlap over slot, inches	4
Capacity of each flow chamber, gallons	26,500
Retention period with all flow chambers in use, hrs.	2.18
Elevation of walks above liquid level, ft.	2.0
Capacity of sludge compartment of each tank, c. f.	7,930
Total capacity of sludge compartments of all tanks, c. f.	15,860
Total capacity of sludge compartments in c. f. per capita	1.7
Head on sludge discharge pipe, ft.	4.9
Size of sludge discharge pipe, inches	8
Gas vent area of each tank, sq. ft.	169.
Per cent of total surface area occupied by gas vent area	12.1
Sq. ft. of gas vent area per cu. ft. of sludge space	.0213
Width of gas vents, ft.	2.08 & 3.17
Elevation of gas vent walls above liquid level, ft.	3.8
Total area of sludge beds, sq. ft.	4,800
Sludge bed area per capita, sq. ft.	.52

Cross Sectional View of Flowing-through Chamber of Imhoff Tank

Similar to the installation at Fitchburg, Mass., the Wallingford plant is provided with scum draw-offs in the flowing-through chambers. By backing up the sewage, scum can be overflowed into these funnels which are just above the sewage level and discharged on to the sludge beds.

Imhoff tanks are designed to remove settleable solids from the sewage. The effluent is comparatively free from large particles of suspended matter. It is not bacteria-free nor is it non-putrescible but it does lighten very materially the load on the natural purification capacity of the river so as to lessen the possibility of a nuisance below the discharge.

How it Meets Future Needs

Mr. MacKenzie has provided Wallingford for the future needs. If the present capacity becomes overloaded, it will be possible to care for a considerable amount of sewage by constructing filters which can be provided by the underdrainage of a portion of the large area of natural sand in place near the tanks. Sufficient head is also available to discharge the Imhoff tank effluent to trickling filters which can be erected below the tank, if further purificaton of the tank effluent becomes necessary. Provisions have been made to construct an additional tank unit when needed.

The Borough of Wallingford may well feel proud to join the ranks of the cities and towns which have progressed beyond the point of disposing of their sewage by the expedient of simply getting it out of town, on to the next fellow. The plant is well designed and looks toward the future. It should do much to improve the Quinnipiac River and is a step in the right direction.

NEWS NOTES FROM THE FIELD

Waterbury has appointed Dr. Edward J. Godfrey health officer, replacing Dr. A. J. Finn who has been acting health officer.

Court Sustains Order Re Water Supply Pollution

Inspection of the Winsted public water supply having disclosed a serious case of pollution, the State Department of Health granted a hearing on December 21, 1925, to the property owner concerned. In spite of the fact that his property drained a brook tributary to the Winsted reservoir, it was found that in 1925 a barn, barn yard, and manure pile had been built very close to the brook.

An order was subsequently issued by the department under authority of Section 2530 of the General Statutes, Revision of 1918. The order was appealed and on March 30, 1926, a hearing was held before the Superior Court in Litchfield County. The appellant asked in his petition that the order be made more definite and this was complied with by the filing of a very specific order before the hearing was begun. The appellant refused to agree to the amended order. The court proceeded to sustain the State Department of Health in its effort to maintain the safety of the water supply by the following judgment:

Burton E. Moore's Appeal from the Order of Stanley H. Osborn, Commissoner of Health for the State of Connecticut.	Superior Court Litchfield County March 30, 1926.

Judgment.

This appeal from the order of Stanley H. Osborn, Commissioner of Health for the State of Connecticut, made on December 24, 1925, came to this Court on the first Tuesday of February, 1926, and thence to the present time when the parties appeared and were at issue to the Court as on file.

The Court having heard the parties finds the issue for the appellee, and that the drainage from the barn-yard and from deposits of animal excreta on said property in the Town of Winchester near Crystal Lake Reservoir, constitute a source of pollution to the public water supply of Winsted, but further finds that the order appealed from should be modified so as to read as follows:

You are hereby ordered to remove and cease to use the present barn-yard. No barn-yard shall be laid out by you and used, any part of which shall be nearer than fifty (50) feet to the brook running westerly through your property, and any barn-yard, if laid out beyond and outside of said fifty foot line but within the watershed of said brook shall be kept reasonably free from accumulations of manure. You shall not accumulate manure in a pile within fifty feet of said brook, nor so accumulate it between fifty feet and two hundred and fifty feet of said brook unless it is kept in a concrete pit.

These changes shall be effected by you on or before May 1st, 1926.

The cess-pool on your property shall be kept under careful surveillance to be sure that no drainage will reach the brook water.

Ells.

Judge.

Vital Statistics

MONTH OF MARCH

TOTALS TO DATE, FIRST TWO MONTHS OF 1926

	Births	Birth Rate*	Marriages	Mar. Rate*	Deaths	Death Rate*
1926	6,945	18.1±0.1	1,855	4.7±0.06	5,199	13.6±0.1
1925	7,479	19.5±0.1	2,105	5.5±0.06	4,917	12.8±0.1
1924	7,976	21.2±0.1	2,334	6.2±0.06	4,923	13.1±0.1

*Rates per 1,000 population annual basis.

Before discussing the figures given above it seems advisable to mention the consistency of the table as compared with previously published figures. Thus, the figures which appeared in the April Bulletin, gave 1,431 as the total marriages for the first two months of 1926. In the month of March, concerning the experience of which this article is written, 389 marriages were reported. Combining 1,431 and 389 gives 1,820 and this would be the correct total for the first three months of the current year were it not for **late reports.** This explanation is given for those investigators who might study the accumulated figures through the year and note the apparent inconsistency of the published results.

The data above give first quarter information of the year 1926 and as a comparison the years of 1925 and 1924 are also exhibited. The birth rate is declining. This will be increased quite substantially for 1926 when delinquent reports are recorded, and to a lesser degree the rate for 1925 will be increased. In fact, it is not impossible for the rate of 1924 to be affected by straggling reports. No inconsiderable increase in the number of births for 1924 may be expected in 1929 when children born in 1924 will start to school and the necessary birth certificate may not have been recorded.

The death rate has increased and is the highest in the last three years. The increase over 1925 is 0.8 of a point and is hardly to be accounted for as a chance phenomenon. This point will be further discussed later in this article.

The marriages are extremely low and have been decreasing by about 0.7 of a point, in rate, since 1924. This will also be mentioned later in the article.

Births

During the month 2,296 births were reported which is exactly 300 less than 2,596 reported in 1925. The birth rate

is 17.7 and is the lowest to be experienced in the past six years. This rate is very low, but not as low as the rate of 15.3 in February which is in part accounted for by the shortness of the month.

Of the towns over 5,000, and there are 49 in the state, 14 reported more births in 1926 than in 1925. It is gratifying to note that 7 of these 14 have increases of more than 10. This value of 10 is entirely arbitrary and does not in any way measure the significance of the increase. Below are given the towns with more than 10 for increase together with the fluctuation that might be expected to arise from chance.

Bristol,	16 ± 10	New London,	32 ± 10
Hartford,	15 ± 27	Vernon,	11 ± 5
Killingly,	11 ± 5	Waterbury,	25 ± 18
New Haven,	11 ± 25		

The increases for Killingly, New London and Vernon appear to be significant if we recall the criterion that an increase, or decrease, to be significant must be at least two or three times its dispersion.

Records of 96 stillbirths were received as compared with 81 in 1925. This is an increase of 15. The rate of stillbirths per 1,000 total births is 40.1 ± 4.0 for 1926. In 1925 this rate was 30.2 ± 3.3. The difference here is 9.9 ± 5.0 and this increase is on the borderland of significance. However, the births for 1925 have been augmented over the figures of a year ago and as the figures for 1926 will be similarly increased it may safely be said that the stillbirth rate of 40.1 for this year will be lowered which will lessen the difference between the rates for 1926 and 1925 with a lessening of the factor of significance.

The sex distribution of the stillbirths was: male, 55; female, 41. The sex ratio is 134 males to 100 females. Last month the sex ratio was 118 males to 100 females. If we change the notation to probabilities, in March the chance of a male stillbirth was 55/96 or 0.573 and for a female stillbirth 0.427. Referring these to the basis of 1,000 stillbirths there results 573 ± 77 males and 427 ± 67. The difference in favor of the male is 156 ± 102 and shows that there is no significant preponderance to the male for one month.

Examining the stillbirths to date, there have been a total of 264 of which 147 were male and 117 female. The sex ratio is here 125.6 males to 100 females. In 1,000 stillbirths we have the following for the first quarter: male, 557 ± 46; female, 443 ± 40. The difference is 114 ± 61 and is not yet a significant departure. Last month the difference for the first two months was noted as 96 ± 75. The figures 114 ± 61 show that the difference is increasing and the dispersion decreasing. The figures will soon become significant.

Deaths

The deaths recorded rose to 2,020, the largest to appear in the last six years but figures which did not yield the largest rate. The rate of 15.5 experienced this year is less than the 15.9 to appear in 1922 and 1923. Last year there were 1,723 deaths. The increase over 1925 is 297.

The mean number of deaths for six years is 1,813±74 with a scatter of 178 ±51. The scatter is rather large and indicates the variability of March death records.

Examining the increases and decreases for 1926 and 1925 for certain diseases gives the following table.

Cause of Death	1926	1925	Increase	Decrease
Diseases of heart	332±18	253±16	79±24	....
Epidemic encephalitis	1± 1	4± 2	....	3±2
Pneumonia undefined	4± 2	4± 2	....	....
Typhoid fever	3± 2	6± 2	....	3±3
Measles	40± 6	6± 2	34± 6	....
Scarlet fever	9± 3	7± 3	2± 4	....
Whooping Cough	20± 4	11± 3	9± 5	....
Diphtheria	10± 3	13± 4	....	3± 5
Influenza	146±12	80± 9	66±15	....
Tuberculosis, pulmonary	108±10	91±10	17±14	....
Tuberculosis, other forms	19± 4	22± 5	....	3±6
Cancer	135±12	140±12	....	5±17
Cerebrospinal meningitis	2± 1	2± 1	....	....
Poliomyelitis	0	0	....	....
Lobar pneumonia	170±13	127±11	43±17	....
Broncho pneumonia	127±11	105±10	22±15	....
Diarrhoea & Enteritis Under 2	14± 4	12± 3	2± 5	....
Puerperal diseases	29± 5	16± 4	13± 7	....
Accident	61± 8	87± 9	....	26±12
Suicide	20± 5	10± 3	10± 5	....
Homicide	7± 3	3± 2	4± 3	....
Other causes	763±28	724±24	39±38	....
Totals	2,020±45	1,723±42	340	43

The increase in total deaths is 297±61 and is apparently significant. As a matter of fact, we have a rather formidable column of increases. The following increases are of statistical significance: Heart disease, measles, whooping cough, influenza, lobar pneumonia. puerperal diseases and suicide.

The increase in measles is particularly noteworthy. Last month there were reported 4,670 cases and that there were only 40 deaths, resulting in a fatality rate of roughly 0.9 per cent, seems to give evidence of a diminishing virulence in this disease in as much as the fatality rate in January and February was about 1.5 per cent. So far this year, 9,861 cases have been reported and 116 deaths. During the entire year of 1925 there were 37 deaths from measles.

Influenza is apparently paying the state a belated visit. The increase of 66±15 can not be explained as a chance phenomenon. No doubt this disease played its ominous part in the increase of puerperal deaths, which increase is 13±7, and probably significant.

Lobar pneumonia increased rather more than might be expected, while the increase in broncho pneumonia is hardly to be considered of moment. What may be the cause for the increase in suicides is a mystery.

The only decrease of any significance is the decrease of 26±12 in accidental deaths. Detailed figures properly placing the classifications of the lowered numbers are not at present available. The deaths from automobile accidents were somewhat lower than a year ago. For this year there were 12, and 17 in 1925. This is a decrease of 5±5 and is not significant.

While the general mortality was increasing the infant mortality also increased, but not in proportion. There were 5 more infant deaths than in 1925, the totals being, respectively, for 1926 and 1925, 220 and 215.

Marriages

The total number of marriages was only 389, to give a rate of only 3.0 per thousand of population. This is the lowest rate which has appeared in the last six years. In a large part the decrease may be accounted for by noting that Lent ran through the month.

For Six Years—March, 1926

CONNECTICUT	1921	1922	1923	1924	1925	1926
BIRTHS	2983	2773	2718	2805	2596	2296
Birth Rate	25.2	23.0	22.1	22.4	20.4	17.7
DEATHS	1492	1921	1959	1762	1723	2020
Death Rate	12.6	15.9	15.9	14.1	13.5	15.5
MARRIAGES	645	428	490	678	508	389
Marriage Rate	5.4	3.5	4.0	5.4	4.0	3.0
COMMUNICABLE DIS.* DEATHS	213	345	367	178	216	338
Per Cent to Total Deaths	14.2	18.0	18.7	10.1	12.5	16.7
DEATHS UNDER 1 YEAR	248	269	260	230	215	220
Rate Per 1,000 Births	87.0	101.8	101.3	86.9	87.2	89.2

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis. Poliomyelitis, Influenza.

Births, Marriages and Deaths

March, 1926 Statistics	Population Est. as of July 1, 1926 Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Stillbirths	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,558,996	2296	96	389	2020	15.5	0.8	89.2	220	120	742
Ansonia	19,291	23	...	2	17	10.6	1.2	117.3	3	1	6
Branford	7,014	12	...	...	9	15.4	3.4	...	...	...	5
Bridgeport	170,717	249	14	34	207	14.6	0.5	106.2	29	14	50
Bristol	25,354	62	1	7	34	16.1	0.5	139.1	7	14	15
Danbury	21,931	46	1	5	48	26.3	1.1	138.7	6	4	20
Derby	12,732	26	2	3	21	19.8	...	54.2	2	...	6
East Hartford	13,950	13	1	1	12	10.3	...	80.5	1	1	5
Enfield	13,039	12	...	3	5	4.6	0.9	40.5	1	...	2
Fairfield	15,041	12	...	...	5	4.0	...	...	...	...	3
Glastonbury	6,124	6	...	3	7	13.7	2.0	...	...	...	5
Greenwich	25,790	31	2	37	30	14.0	1.9	75.6	3	...	11
Groton	11,045	9	...	3	12	13.0	...	...	...	1	7
Hamden	10,434	12	1	3	7	8.1	1.2	61.2	1	...	1
Hartford	164.228	366	12	53	218	15.9	0.7	86.0	29	10	47
Killingly	9,218	18	...	7	8	10.4	1.3	61.2	1	...	5
Manchester	21,505	32	3	4	19	10.6	...	...	...	2	9
Meriden	36,529	35	3	9	53	17.4	0.3	103.0	6	1	27
Middletown	22,891	26	3	4	69	36.2	1.0	19.9	1	5	28
Milford	14,073	...	...	...	...	...	...	...	...	...	...
Naugatuck	16,589	10	1	...	13	9.4	0.7	71.0	1	...	2
New Britain	69,482	128	3	11	74	12.8	1.4	87.4	12	1	23
New Haven	181,823	330	5	56	285	18.8	0.6	65.6	22	17	107
New London	29,566	66	1	10	41	16.6	1.6	61.8	4	11	14
Norwalk	29,859	46	5	7	45	18.1	0.4	67.6	4	...	21
Norwich	30,576	60	6	7	61	23.9	0.8	14.5	1	3	23
Plainfield	8,694	7	...	...	5	6.9	...	...	...	...	3
Plymouth	6,364	4	...	2	5	9.4	...	118.9	1	...	2
Putnam	9,105	16	...	5	13	17.1	...	...	...	...	7
Seymour	8,116	6	...	...	6	8.8	...	93.7	1	...	4
Shelton	11,398	9	1	2	20	21.1	1.1	...	...	1	9
Southington	9,727	21	...	...	15	18.5	...	64.8	1	...	7
Stafford	5,454	13	...	1	5	11.0	...	62.8	1	...	...
Stamford	47,373	77	4	27	76	19.3	1.0	101.9	10	4	25
Stonington	10,930	7	...	4	17	18.7	1.1	69.7	1	1	10
Stratford	16,768	12	...	2	22	15.7	0.7	103.0	2	2	13
Thompson	5,203	11	...	...	4	9.2	...	190.4	2	...	1
Torrington	24,929	25	1	1	22	10.6	1.0	90.2	4	2	6
Vernon	8,787	18	...	...	9	12.3	...	288.0	3	2	1
Wallingford	12,571	9	...	2	12	11.5	1.9	129.0	2	...	6
Waterbury	104,047	182	9	18	133	15.3	1.3	148.2	30	10	27
Watertown	7,359	6	...	...	6	9.8	...	155.8	1	...	2
West Hartford	11,562	15	3	3	22	22.8	...	502.6	8	4	4
West Haven	18,334	22	...	2	24	15.7	0.7	29.3	1	...	7
Westport	5,685	3	...	1	9	18.9	...	320.0	2	1	4
Wethersfield	5,141	3	...	3	5	11.7	2.3	...	...	...	3
Winchester	9,074	11	...	3	10	13.2	...	...	...	...	7
Windham	14,391	24	2	4	10	8.3	...	69.4	2	...	6
Windsor	6,584	3	...	...	7	12.8	1.8	122.4	1	1	2
Towns under 5,000	212,599	142	12	40	263	14.8	1.0	51.1	13	7	144

for the month of March, 1926

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
332	1	4	3	40	9	20	10	146	108	19	135	2	......	170	127	14	29	61	20	7	745	307
3	......	......	......	......	......	2	1	......	2	......	2	......	......	1	1	......	......	......	......	......	......	1
3	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......
29	......	......	......	......	3	6	3	21	4	3	17	......	......	12	16	......	2	6	3	2	96	20
7	......	1	......	......	......	1	......	1	......	1	2	......	......	2	3	1	......	......	2	......	3	......
10	......	......	......	......	......	......	1	4	2	......	4	......	......	2	2	......	1	2	......	......	13	7
4	......	......	......	......	......	......	......	2	......	......	......	......	......	3	1	......	......	2	......	......	9	7
4	......	......	......	......	......	......	......	......	......	......	1	1	......	2	......	......	......	......	......	1	......	......
1	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	1	......	......	......	......	......	......
1	......	......	......	......	......	......	......	1	......	......	......	......	......	1	......	......	......	......	......	......	......	1
......	......	......	......	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	......	......
8	......	......	......	......	......	......	......	3	4	......	2	......	......	......	2	......	......	2	......	......	11	6
5	......	......	......	......	1	......	......	2	......	......	1	......	......	1	......	......	......	......	......	......	2	......
1	......	......	......	......	......	......	......	......	1	......	1	......	......	1	......	......	......	......	......	......	......	1
35	1	......	......	4	1	1	2	6	5	1	23	......	......	20	12	1	......	12	3	......	121	45
1	......	......	......	......	......	......	......	......	1	......	......	......	......	......	2	......	......	......	......	......	1	1
6	......	......	......	3	......	......	......	......	......	......	2	......	......	3	1	......	......	......	......	......	8	......
12	......	......	......	1	1	1	......	5	1	......	1	......	......	5	1	......	1	......	......	1	13	......
8	......	......	......	......	......	......	......	3	2	1	3	......	......	13	11	......	......	1	1	......	47	34
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
4	......	1	......	......	......	......	......	......	1	......	1	......	......	1	......	......	......	......	......	......	......	......
8	......	......	......	......	......	......	......	11	5	1	5	......	......	9	5	......	2	3	......	......	27	5
32	......	......	1	2	2	4	1	13	6	6	21	......	......	35	25	1	3	11	2	......	141	49
6	......	......	2	4	......	1	......	1	3	......	......	......	......	4	1	......	1	1	1	......	18	8
7	......	1	......	......	......	......	......	10	1	1	5	......	......	3	1	......	......	2	......	......	17	7
9	......	......	......	1	......	......	......	7	9	1	5	......	......	1	1	2	5	2	......	......	29	14
2	......	......	......	......	......	1	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	......	......	1	......	......	1	1	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	1	......	......	1	......	......	1	......	......	1	......	......	......	6	5
3	......	......	......	......	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	1
5	......	......	......	......	......	......	......	2	7	......	3	......	......	......	......	......	......	......	......	......	6	7
5	......	1	......	1	......	......	......	1	......	......	......	......	......	1	......	1	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	1	......	......	1	......	......	......	......	......	......	3	1
7	......	......	......	3	......	......	......	9	4	1	6	......	......	9	3	......	2	5	1	......	33	7
3	......	......	......	......	......	......	......	1	......	......	3	......	......	1	4	......	......	......	......	......	......	......
7	......	......	......	1	......	......	......	5	1	......	......	......	......	......	2	......	......	......	......	......	......	1
1	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......
......	......	......	......	1	......	1	......	1	2	1	......	......	......	1	1	......	......	2	......	......	3	2
1	......	......	......	1	......	......	......	1	......	......	1	......	......	......	2	......	......	......	......	......	......	......
4	......	......	......	......	......	......	......	1	2	......	......	......	......	1	1	......	......	......	......	......	3	......
14	......	......	......	5	......	......	......	10	8	......	8	......	......	13	9	2	6	4	......	......	45	8
......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	8	......	......	......	......	......	......	1	......	......	2	......	3	2	......	......	......	16	1
4	......	......	......	......	......	......	......	1	5	......	......	......	......	3	......	......	......	1	......	......	6	5
......	......	......	......	2	......	......	......	......	......	1	......	......	......	......	1	......	......	......	......	......	2	2
3	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......
4	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	2	1
2	......	......	......	......	......	......	......	2	......	......	......	......	......	1	1	1	......	1	......	......	2	1
2	......	......	......	......	......	1	......	......	1	......	......	......	......	......	......	......	......	......	1	2	......	......
57	......	......	......	3	1	1	2	20	29	1	12	1	......	13	15	1	3	4	6	1	61	59

Laboratories

SUMMARY OF BUREAU ACTIVITIES FOR APRIL, 1926

DIAGNOSTIC

	+	—	?	Unclassified	Total	
Typhoid	1	51	....	....	52	
Paratyphoid A	1	51	....	....	52	
Paratyphoid B	9	43	....	....	52	
Diphtheria	38	674	....	....	712	
Diphtheria Virulence	1	6	....	....	7	
Vincent's Angina	1	317	....	....	318	
Haemolytic Streptococci	3	315	....	....	318	
Tuberculosis	24	124	....	....	148	
Syphilis	283	1,993	169	....	2,445	
Gonorrhoea	27	102	....	....	129	
Pneumonia	9	2	....	....	11	
Rabies	5	4	....	....	9	
Special specimens	2	23	....	3	28	4,281

CHEMICAL AND BACTERIOLOGICAL

Milk samples	323	
Water samples	205	
Sewage samples	6	
Oyster samples	2	536
Total examinations made		4,817

The Kahn Test

Many physicians in the state have expressed their appreciation that the Bureau of Laboratories has been making the Kahn test on practically all blood specimens that give a positive reaction by the complement fixation (Wassermann) test for syphilis. This has been done as an additional check on the accuracy of the results. In the experience of this Bureau the results by the two tests have been strikingly uniform but lack of time and personnel have so far made it impossible to examine all specimens by both techniques. The Kahn test has been developed during the past decade at the Michigan State Department of Health laboratories. The chief technician in immunology in the Connecticut Laboratories received several years' training under Dr. Kahn in the Michigan laboratories. Recent information is to the effect that the Kahn test has entirely replaced the complement fixation test in the Michigan State Laboratories and in the United States Navy. It is being used to a large extent elsewhere in connection with the Wassermann procedure.

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF APRIL, 1926

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of April, 1926, with the corresponding month for the years 1921, 1922, 1923, 1924 and 1925.

DISEASE	Average 1921-1925 for April	Mean 1921-1925 for April	1921	1922	1923	1924	1925	1926
Cerebrospinal Meningitis ..	7	5	11	11	5	2	4	5
Diphtheria	177	178	202	212	178	154	138	65
Encephalitis Epidemic	8	9	9	10	14	3	4	2
Measles	773	779	542	909	1,002	632	779	2,427
Poliomyelitis	1	......	......	......	......	3	3	1
Scarlet Fever	428	397	397	252	290	719	480	392
Smallpox	19	11	1	74	11	10	2	......
Typhoid Fever	10	10	16	12	7	3	10	4
Tuberculosis Pulmonary ..	154	142	199	138	141	142	149	130
Whooping Cough	235	270	270	124	276	107	400	266

A comparison of the morbidity on these diseases for the two preceding months, February and March, with the April record is as follows:

	February	March	April
Cerebrospinal Meningitis	1	4	5
Diphtheria	183	190	65
Encephalitis Epidemic	4	2	2
Measles	2,591	4,670	2,427
Poliomyelitis	1	2	1
Scarlet Fever	331	423	392
Smallpox	......	......	......
Typhoid Fever	11	6	4
Tuberculosis (pulmonary)	103	145	130
Whooping Cough	281	503	266

Cases of Other Reportable Diseases

Chickenpox	170
Conjunctivitis Infectious	1
Dysentery Bacillary	2
Encephalitis Epidemic	2
German Measles	71
Influenza	556
Mumps	40
Paratyphoid Fever	5
Septic Sore Throat	2
Tetanus	3
Gonorrhoea	63
Syphilis	74
Chancroid	1
Total	990

Cases of Occupational Diseases

Anemia	1
Chronic Lead Poisoning	1
Dermatitis Venenata	1
Eczema	2
Total	5

Cases of Certain Reportable Diseases

April, 1926	Population Est. as of July 1, 1926	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Broncho-Pneumonia	Other Com. Diseases
State Total	1,558,996	4	2427	392	266	65	5	1	130	19	401	314	990
NEW HAVEN CO.	**467,392**	**2**	**564**	**161**	**90**	**21**	**1**	....	**42**	**11**	**98**	**63**	**207**
New Haven	181,823	2	326	66	56	1	....	....	25	9	28	17	101
Waterbury	104,047	....	16	28	....	10	....	....	8	....	37	21	23
Meriden (city and town)	36,529	....	107	20	3	1	....	....	1	1	21	14	17
Ansonia	19.291	....	....	3	1	3	....	....	....	....	....	1	1
West Haven	18,334	....	38	16	1	....	1	....	....	....	4	4	6
Naugatuck	16,589	....	....	....	....	....	....	....	....	....	....	....	....
Wallingford (town and boro)	12,571	....	5	2	....	3	....	....	1	....	....	1	....
Milford	14,073	....	3	3	....	....	....	....	2	....	2	1	2
Derby	12,732	....	....	....	....	1	....	....	....	....	....	....	....
Hamden	10,434	....	18	13	23	....	....	....	....	1	5	2	14
Branford (town and boro)	7,014	....	7	....	....	....	....	....	2	....	....	1	10
Seymour	8,116	....	....	....	....	1	....	....	....	....	....	....	....
Towns under 5,000	25,839	....	44	10	6	1	....	....	3	....	1	1	33
FAIRFIELD CO.	**371,561**	**1**	**570**	**131**	**40**	**13**	**2**	**1**	**32**	**3**	**90**	**68**	**154**
Bridgeport	170,717	....	11	76	11	8	2	....	17	2	41	38	77
Stamford (city and town)	47,373	....	118	3	1	2	....	....	5	....	25	4	11
Norwalk	29,859	....	221	1	9	2	....	....	2	....	4	2	1
Danbury (city and town)	21,931	....	....	2	....	....	....	1	1	....	3	....	6
Greenwich (town and boro)	25.790	....	22	2	3	....	....	....	4	....	6	10	14
Stratford	16,768	1	1	10	....	....	....	....	....	....	6	3	3
Fairfield	15.041	....	4	32	2	1	....	....	2	1	1	3	7
Shelton	11,398	....	4	2	1	....	....	....	1	....	1	4	....
Westport	5,685	....	....	....	....	....	....	....	....	....	....	....	1
Towns under 5,000	26,999	....	189	3	13	....	....	....	....	....	3	4	34
HARTFORD CO.	**393,501**	....	**612**	**38**	**106**	**19**	**2**	....	**40**	**4**	**137**	**97**	**231**
Hartford	164,228	....	184	12	21	10	1	....	20	3	62	50	112
New Britain	69,482	....	25	3	4	3	....	....	10	....	17	9	21
Bristol (city and town)	25.354	....	19	5	51	1	....	....	3	1	9	6	14
Manchester	21,505	....	6	3	3	1	....	....	1	....	4	6	7
Enfield	13.039	....	2	2	3	....	....	....	1	....	4	4	4
East Hartford	13,950	....	47	1	1	....	....	....	1	....	6	7	4
Southington (town and boro)	9,727	....	23	....	3	1	....	....	....	....	5	....	1
West Hartford	11,562	....	120	4	4	....	1	....	1	....	10	4	9
Windsor	6,584	....	8	....	....	1	....	....	....	....	6	2	5
Glastonbury	6,124	....	47	1	8	....	....	....	....	....	4	3	1
Wethersfield	5,141	....	7	6	....	2	....	....	1	....	1	....	12
Towns under 5,000	46,805	....	124	1	8	....	....	....	2	....	9	6	41
NEW LONDON CO.	**113,554**	....	**380**	**37**	**8**	**6**	....	....	**6**	**1**	**16**	**10**	**23**
Norwich (city and town)	30,576	....	39	1	....	2	....	....	2	....	....	1	1
New London	29,566	....	39	23	1	2	....	....	....	....	6	2	4
Stonington (town and boro)	10,930	....	4	....	2	....	....	....	....	....	....	3	3
Groton (town and boro)	11,045	....	87	6	3	....	....	....	1	1	6	4	1
Towns under 5,000	31,437	....	211	7	2	2	....	....	3	....	4	....	14
LITCHFIELD CO.	**80,282**	....	**151**	**18**	**6**	**4**	....	....	**3**	....	**15**	**14**	**333**
Torrington (town and boro)	24,929	....	34	5	5	1	....	....	....	....	8	8	84
Winchester (inc. Winsted)	9,074	....	1	....	....	....	....	....	....	....	....	....	2
Plymouth	6,364	....	3	5	....	....	....	....	....	....	1	....	218
Watertown	7,359	....	14	5	....	....	....	....	....	....	6	6	29
Towns under 5,000	32,556	....	99	3	1	3	....	....	3	....	....	....	....
WINDHAM CO.	**55,799**	....	**89**	**3**	**2**	....	....	....	**3**	....	**12**	**20**	**19**
Windham (inc. Willimantic)	14,391	....	42	1	....	....	....	....	1	....	2	7	3
Putnam (city and town)	9,105	....	1	....	....	....	....	....	....	....	4	2	1
Plainfield	8,694	....	....	....	....	....	....	....	....	....	....	1	1
Killingly (inc. Danielson)	9,218	....	5	....	....	....	....	....	1	....	....	2	....
Thompson	5,203	....	5	2	2	....	....	....	1	....	2	2	7
Towns under 5,000	9,188	....	36	....	....	....	....	....	....	....	4	6	7
MIDDLESEX CO.	**49,185**	....	**33**	**2**	**14**	**2**	....	....	**4**	....	**30**	**38**	**17**
Middletown (city and town)	22,891	....	21	1	11	....	....	....	....	....	24	34	....
Middletown State Hospital		....	....	....	....	....	....	....	2	....	....	....	2
Towns under 5,000	26,294	....	12	1	3	2	....	....	2	....	6	4	15
TOLLAND CO.	**27,722**	**1**	**28**	**2**	....	....	....	....	....	....	**3**	**4**	**6**
Vernon (inc. Rockville)	8,787	....	....	....	....	....	....	....	....	....	1	2	....
Stafford (town and boro)	5,454	....	1	2	....	....	....	....	....	....	1	1	....
Towns under 5,000	13,481	1	27	....	....	....	....	....	....	....	1	1	6

State of Connecticut Health Bulletin

"*For a Clean State and a Healthy People*"

Vol. 40 June, 1926 No. 6

This Issue Contains

STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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CONNECTICUT
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DENTAL CARIES, OR TOOTH DECAY*
ITS CAUSES AND PREVENTION

By C. R. Salmons, D. D. S.
Division of Dental Hygiene

Primitive man, living in isolation, making his home in cave or treetop, found that, alone he was unable to cope with the evil influences surrounding him and endangering his existence. He therefore, for the sake of safety, banded with his fellow man, thus laying the foundation of community life, upon which our civilization is built.

Community life, however, while providing security against the wild beasts of jungle and forest, and simplifying certain phases of existence through the pooling of common interest, also opened up complications to which man had hitherto been a stranger.

One of the problems of the new era was that of the diseases which resulted from changed environment. Man's life now being easier there was a resultant let down in his physical structure which left him more vulnerable to disease in all its forms.

As he passed from the primitive diet, consisting entirely of raw meat and roots and herbs, to that of a more varied nature, and developed the art of cooking his food to make it more savory and more easily digested, man used his teeth less and less, with the result that they lost some of the density of structure and developed a susceptibility to decay.

Then from somewhere in camp there went up a howl of anguish and humanity was called upon to pay another of the penalties of social existence,—toothache. From that day to this toothache has been with us ever and who is there among us without his painful rosary, whose beads are made up of the hours I spent with thee.

Now the human body is made up of very simple materials. Only about 15 chemical elements are used in its structure and

*Radio Talk Broadcast over WTIC April 14, 1926.

Nature took great care to surround us with an abundance of these materials as a source of supply for the replacement of those used up in the daily activities of life. She also built up an elaborate system for the conversion of food materials to the uses of the body, and another for ridding the body of waste products occasioned by the wearing out of the tissue. Thus the ingestion and digestion of food is a function of supreme importance, and it will be seen that the greatest care should be used in the selection of food materials that they may contain all the elements needed by Nature for her processes of repair.

This is especially important for children during the period when the permanent and semipermanent tissues, such as teeth and bones are being laid down.

The lower animals are guided in their selection of food by what we call instinct and they make few mistakes. But man, who is guided by an intelligence supposedly superior to instinct, has permitted himself to be influenced by the taste of certain foods and his sense of proper selection has become perverted.

In her planning and building, Nature apparently failed to foresee and make provisions for this perversity of humankind. Certain of the lower animals who must use their teeth for gnawing the bark of trees, etc., were provided with the faculty of replacing tooth structure, worn away through use. But when she came to man, Nature evidently planned in this wise: *In the building of these teeth I am using the strongest materials to be found. Considering the diet upon which man will subsist, they will serve him amply throughout a long lifetime. So I have no need to make provision for their replacement.* Thus tooth structure is the only tissue in the human body which is lacking in the power of self repair.

And that is our misfortune. Our foods are not of the fibrous variety which Nature had intended to serve as her toothbrush, and the soft materials making up the bulk of our diet today are wholly unfitted for the purpose of keeping the enamel polished as Nature had intended our food should. Instead small particles are left clinging to the cheek and gums and upon the surfaces of the teeth. These provide lodgment places and breeding grounds for certain bacteria or germs which by their activities establish the process of fermentation, thereby producing acids.

It is the faculty of these germs also to manufacture a protective material for themselves and their products. This is attached to the teeth in the form of a thin, transparent film. Under this film the acids produced are preserved from dilution by the saliva, and thus the concentrated acid is held in direct contact with the enamel of the tooth.

Enamel, being composed chiefly of the salts of lime, is susceptible to the action of acids, and is destroyed thereby. So

Nature's purpose is defeated and the teeth are destroyed by a process which she did not take into account.

This, of course, is not the full story of tooth decay. Undoubtedly there are many factors in the situation with which we are as yet unfamiliar. Factors which increase the susceptibility of certain individuals, making them more liable than others living under apparently identical conditions—faulty elimination of waste materials—failure of certain internal glands to function properly—nervous disorders—many things are suspected as playing a part in lowered resistance and increased susceptibility, but these we are, with our limited knowledge, unable to prove or control.

However, we are not entirely ignorant. And enough is known about the causes of tooth decay so that rather definite rules can be laid down for its prevention and for the preservation of tooth structure.

The first is proper diet. There is nothing at all complicated about this. Drink lots of milk, eat whole wheat bread and whole grain cereals, an abundance of green vegetables—especially the leafy ones—and salads.

Eat meats sparingly, and avoid refined sugars. Give your children sweets in the natural forms—such as honey, maple syrup and sugar, figs, dates, raisins and so forth.

Use fruits of all kinds in abundance. These are the things which provide the elements essential to the building and repair of the body, and they also contain the fibrous materials which will aid in keeping the teeth clean.

The second rule is cleanliness. Select a small toothbrush adapted to reaching all the surfaces of the teeth. With this and a mild toothpaste or powder, which should be soapy and free from heavy grits, brush the teeth, gums and cheeks—let me repeat—teeth, gums and cheeks— thoroughly at last twice daily. The importance of brushing the gums cannot be over emphasized. It serves to stimulate the flow of blood, thereby preserving the health of these tissues and keeping them strong and firm as Nature intended them to be. Do this at least twice daily, and as much oftener as opportunity provides. Use at least two minutes in the process of brushing and be very thorough in your methods.

The last rule for good teeth is to cooperate with your dentist. Select an intelligent and capable man and ask him for advice concerning your specific needs. Visit him at frequent intervals for examination and special polishing of the enamel. These intervals should never be greater than six months and three should be the rule.

Thus most tooth troubles can be avoided, and prevention is much better than cure. Following these directions, there is absolutely no reason why your teeth should not remain strong and firm and serve you well to the end of your days.

CONNECTICUT AND THE MENTAL HEALTH CLINIC

By Winifred W. Arrington
Division of Mental Hygiene

The mental hygiene movement of recent years, which had its birth in our own state of Connecticut, is now nation-wide, and there are even indications that it is subtly penetrating Canada, Europe, and the Orient. The movement rests upon the discovery that a certain proportion of functional mental and nervous diseases are capable both of cure and prevention. The hope of curability was recognized first. Thereupon the policy and program of sanitaria and state hospitals underwent radical changes which greatly relieved the condition of the mentally sick and hastened their recovery in many instances. However, human thought is perverse, and it was still some time before the realization came that not all incipient mental abnormalities need necessarily pursue a fatal course to frank insanity. Once the preventability of even mild disturbance was admitted, there opened an unlimited field of clinical possibilities.

Mental Health Clinics are now multiplying at a gratifying rate. The National Committee for Mental Hygiene in New York City, through its Division on the Prevention of Delinquency, is responsible for a series known as Child Guidance Clinics operating in various large cities throughout the country. Societies for Mental Hygiene have sponsored similar programs on a smaller scale in several states. Juvenile Courts have seen the advantage of psychiatric study and treatment in connection with delinquent children, and are coming to rely more and more upon the services of experts in the field of mental and nervous abnormalities. Neurological hospitals and also general hospitals and dispensaries are adding neuropsychiatric clinics to their available facilities, and out-patient clinics at state hospitals for mental diseases are, of course, a matter of relatively long standing. All told, the clinic phase of the mental hygiene movement has given evidence of vigorous and rapid expansion, and with illuminating results.

What Connecticut is Doing

At the present time the State of Connecticut contains seventeen clinics which may be fairly classed as Mental Health Clinics. In point of location they are distributed as follows: Bridgeport 3, Bristol 1, Greenwich 1, Hartford 2, Middletown 1, New Haven 3, New London 1, Norwich 2, Stamford 1, and Waterbury 2. Five are under the auspices of the Connecticut Society for Mental Hygiene, three are under strictly municipal auspices, (including one attached to the Juvenile Court)

five are associated with hospitals, two are privately sponsored, and two are sponsored by the state and local organizations jointly. Five clinics cater to children exclusively, and the remainder receive adults and children alike. Thirteen of the seventeen clinics are equipped with a full standard staff,—that is, at least one psychiatrist, a psychologist and one or more psychiatric social workers.

One clinic meets three times weekly, three twice weekly and nine once weekly. One is open daily and one monthly. For two, special appointments must be made.

Emotional Tendencies in the Young Child

Among children, the Mental Health Clinic meets a double need—that of safeguarding the young child by means of training, and that of re-educating and readjusting the "problem" child. To the young child—preferably of preschool age—it seeks to give such training as will prevent the occurrence of undue emotional strain. Some degree of emotional strain is inevitable in the many crises of the school period, of adolescence, and of adult life, but intelligent guidance and preparation may reduce it to a minimum. The little child's crises are too often appreciated by none but the child himself. Momentous as they are to him, they pass quite unnoticed by the grown-ups about him. It requires a good deal of persuasion, for instance, to convince a busy parent that Johnny at three is suffering from jealousy of the new baby when he loses weight and appetite and develops an annoying enuresis. Yet if Johnny could explain himself, he would tell us that his whole small universe has toppled. For three years he has been a petted little king, coaxed and smiled at and shown off. Then in a day he is lost sight of, absently listened to, and told to run away. A rival appears upon the scene—an unprepossessing one at that,—and Johnny suddenly becomes a nobody or at least, somebody who no longer requires attention. Johnny who has been fed upon attention, naturally registers protest by the only means known to him. He re-establishes himself in a position of helplessness, makes a pathetic infant of himself once more, and so commands the solicitude he cannot cajole.

The mental hygiene program seeks to anticipate the difficulties of the developing years, and aims, by creating resources in the child himself and instilling knowledge in the parent, to cope successfully with each problem as it arises. Someone has remarked that mental hygiene should be in practice when the child is one week of age, and certainly it is not later than the first week that the baby begins to form habits. The baby's reactions to the simple physical routine of eating, sleeping, etc., may make or mar his future to the extent that he is allowed to make them occasions for over-coddling or for petty tyranny.

Jealousy, temper, disobedience, fright, excessive shyness, stubbornness, vindictiveness, bed-wetting, etc., are all complex situations which should call forth the utmost wisdom and tact in the parent, for they are capable of working serious damage if imprudently or ignorantly dealt with. Habits constitute either friends or foes in mental hygiene, as in general hygiene. It is because of their supreme importance that these special organizations dealing with the preschool child are frequently known as habit clinics. These special child-training clinics are by all odds the strongest weapon in the preventive campaign of the mental hygiene movement.

How the Mental Clinic Functions

The work with "problem" children is inherently more difficult than that of the strict habit clinic. And quite naturally, for here one is called upon to undo mistakes of training already committed. Problem children, in the definition of Dr. Lawson G. Lowry, are "children whose behavior is out of the ordinary, either because they do unusual or queer things, or because they are overactive or 'nervous' or underactive or seclusive, or show other disorders of behavior such as antisocial acts. Such behavior may be encountered in children who are superior or average or inferior in general intelligence,—is an expression of difficulties in social adaptation, and the child who exhibits it may be spoken of as maladjusted."

Especially with the problem child, the mental health clinic executes a careful study of the hereditary and environmental background, concluding with a close examination of all factors in the immediate home, which may have possible bearing upon the child's emotional state and its expression in conduct. This study is known as the social history. Ideally, the social history is in the hands of the clinic physician, and has been considered by him before the child is presented.

The social history completed, the child is given an exhaustive examination, consisting of three parts. There is, first, a thorough physical examination, preferably including laboratory tests, to determine the possible presence of disease or malfunction. It is estimated that probably 85 per cent of all problem children are victims of physical disorders and these disorders undoubtedly bear a sharp relation to the patient's conduct.

In the second place, the child receives a psychological examination. Standardized tests are given which offer an index to (a) the child's level of intelligence—that is, his intellectual development or "mental age" as opposed to his actual development or age in years, (b) his educational progress, and (c) his special handicaps and special abilities. About 20 per cent of all delinquent children have been found to be of sub-

normal intelligence, about 5 per cent to be superior. Some 60 per cent of delinquents have proved to be two or more years backward in school work. As to special abilities and disabilities, a study of these is of inestimable importance in re-educating any child, who has made a wrong start.

Interpreting the Results

Finally a psychiatric examination is undertaken. Dr. Lowry gives this account of a psychiatric examination: "It is an examination of the mind and its workings in the individual child; his experiences and his view of them; his behavior under varying conditions; his instinctive and emotional make-up; his views of the general situation in which he is placed. By it the presence or absence of various mental abnormalities is determined. It seeks to get a picture of the child as a living and adjusting personality, with a total picture of the social, physical and mental forces that determine the activities of the child. It rounds up the total study, with special reference to the question: 'What can be done about it?'" Ignorance still leads the lay public to associate quackery with mental hygiene, and it should, therefore, be emphasized always that this examination is performed by a psychiatrist, that is, a competent physician who has received special additional training in the field of neurology and mental diseases.

But the clinic does not stop at examination and diagnosis. The study in each individual case uncovers wrongs to be set right, and treatment consists of righting these wrongs or readjusting the child to life. It may be that medical measures are required. Perhaps strictly psychiatric methods or psychotherapy are indicated—analysis suggestion, etc. Or the trouble may fall largely within the province of the school; the child may need a transfer to a different grade, to an opportunity class, or to manual work. Or possibly the home is the principal source of maladjustment; the cooperation of the family and friends must be enlisted, or it may be even that a new home must be contemplated; in other words, social or environmental treatment must be put into effect. The problem is ordinarily not a single one, but on the contrary, bafflingly complex. Mind and body, home and school commonly combine in intricate inter-relationship to make a problem child. The clinic seeks in every case to disentangle the numerous threads. The child is misfitted—on this premise the staff acts, and the aim is always to accomplish a refitting which will make for normal and healthy living. Unfortunately, the technique of dealing with people is still imperfectly developed. Many persons enter into the life of any one individual, each contributing an influence impossible to calculate. The success of any plan made must necessarily depend upon the sum

total of cooperation obtained from the entire group of individuals concerned, and that cooperation is sometimes disappointingly uncertain.

The Mental Health Clinic and the Adult

Adults make a multiple claim upon the Mental Health Clinic. An attempt is made to meet this claim in several ways (1) by readjustment of mildly "nervous" individuals, (2) by arrest of incipient mental disorders, and (3) by preventive instruction to the general public, and particularly to that portion of the public which is mentally and nervously intact. There is, of course, the additional phase of adult work, which overlaps the activities of the children's clinics—mental health information for parents.

In adult work there is often to be faced the unhappy fact that one is meeting difficulties dating from childhood which have become crystallized, so to speak, and to that extent resist treatment. However, the disorders of adults are by no means hopeless. The principle of maladjustment applies no less certainly in mature years, and if it is complicated by the force of time and habit and less elastic physique, it is only so much more a challenge to medicine and psychiatry.

Mental and nervous disorders are sometimes the final outcropping of long standing emotional strain. Sometimes they are the response to a definite physical or mental crisis; witness the neuroses which develop at the menopause, or the startling breakdown which follows loss of a devoted parent or mate. In any case, psychiatry teaches that they may be taken as a gesture of helplessness on the part of the individual. They are a figurative throwing up of the hands, a declaration that life in its existing form is impossible to cope with. They are illnesses none the less and to be treated as such. The nervous wife is a sick woman; the down hearted workman with a mental pain in his foot is diseased. Treatment is needed, and that it does not confine itself to powders and pills is but one more tribute to the forward march of medicine.

The clinic procedure for adults corresponds to that for children. The investigation and examination aim to be the same. There is the social history with special stress upon the circumstances attending the onset of the illness, and upon the course of the illness to date. Then follow the physical, the psychological, and the psychiatric examinations, summed up, where justifiable, by a definite diagnosis. Treatment, similarly, is based upon all factors brought out by the study of the patient and his problem. Effort is made to give the patient insight into his own difficulty. The resources of psychiatry and medicine are drawn upon to the full, and so far as possible, all irritating influences are eliminated from the home or shop,

—that is, the environment is adapted to the requirements of the patient. By these means recovery is expedited and in many cases a condition of poise maintained for an indefinite period.

Preventive Endeavor in Mental Health

So much for curative work. Preventive endeavor, of course, has its most profound effect in childhood and adolescence, for there the campaign for preparedness is favored by greatest receptivity. Patient instruction and explanation of causes, however, given to adults either in normal health or already undermined nervously, do not fail of beneficial results. Understanding of causes on the part of the individual is one great barrier to nervous and mental collapse. Alarmist talk is worse than none, but it is always possible to give information frequently and judiciously, which will arouse caution without harmful introspection. The importance of avoiding fatigue, of adopting regular habits, of indulging in sufficient recreation of a type not over-stimulating, and of expanding social contacts—in short, the close relation of general hygiene to mental and nervous integrity—can be brought home to every person of mature years. Few persons realize in any but a vague way the need for conserving energy and for directing it intelligently. Far too many of us think ourselves in some miraculous way exempt from so-called "nervous prostration" probably for no more acceptable reason than that "we have no nerves in our family." We are content to live in a security far more false than we suspect and when a breakdown comes, we are prone to nurse a sense of undeserved calamity, which is an added illness in itself. Self-deceit is hard to excuse where knowledge exists, but in many instances ignorance is responsible for unwise living. Mental hygienists have an unlimited field for effort in combating ignorance about the simplest rules for sensible living, and so forestalling some of the functional and fatigue psychoses. Precautionary advice which will reduce intoxication, drug addiction, and the spread of infection has real value in diminishing the number of toxic psychoses, and of certain psychoses due to organic brain disease, etc., which constitute practically one-fifth of the annual toll of insanity.

This, briefly, is the work of the Mental Health Clinic. For child and for adult in prevention and in reconstruction it is seeking to fulfill a need long neglected.

It might be added that the Division of Mental Hygiene of the State Department of Health has for general distribution literature on the subject of mental disease, the mental hygiene movement, child training, etc. It has also a list of all Mental Health Clinics in Connecticut which will be mailed upon request to anyone interested.

NEWS NOTES FROM THE FIELD

Appointment of Health Officers:

Judge Marr, County Health Officer, has recently appointed Mr. George T. Hanna health officer of Bethel, replacing Mr. E. Ambrose English.

Two County Public Health Associations Formed:

The Fairfield County health officers have recently joined to form the Fairfield County Public Health Association.

The New London County health officers have likewise formed the New London County Public Health Association. Officers elected are President, Dr. Benjamin N. Pennell; Secretary, Dr. Ross E. Black; both of New London.

It is of interest to remember that the New Haven County Public Health Association was formed in 1899, and the Litchfield County Public Health Association in 1914.

New England Health Institute:

The fourth New England Health Institute will be held in Concord, New Hampshire, September 27—October 1. The original dates, planned for May, were postponed on account of the American Health Congress at Atlantic City.

Two Laboratories Approved:

Under Regulation 40 of the Sanitary Code, which permits the State Department of Health to give a certificate of approval to laboratories which conform to the required standards, the bacteriological laboratory of Trinity College under the direction of Dr. Horace C. Swan, has been approved.

Legislation of 1925 under Section 2482, Chapter 101, also permits the approval of Laboratories for Examination of Milk. Under this ruling the Hartford Department of Health Laboratory, under the direction of Miss Katheryn Marden, has just been approved. This laboratory has the distinction of being the only laboratory in the state to hold the two certificates.

Exhibit at Sesqui-Centennial:

Connecticut will show its progress in health history by a special exhibit which has been installed in the Connecticut Building at the Sesqui-Centennial, Philadelphia, just at the head of the "Street of 1776."

This exhibit shows in panel form the activities of each of the bureaus and divisions by spot maps, charts and photographs. Frequent use of color is used to catch the eye, and movement to arrest the attention in the shape of flashing signs and a large book, illustrated with enlarged photographs of field activities, whose pages open mechanically.

In a special panel the health history of the state is unfolded in chronological form since the founding of the State Board of Health in 1878.

Vital Statistics

MONTH OF APRIL

TOTALS TO DATE, FIRST FOUR MONTHS, 1926, 1925, 1924

	Births	Birth Rate*	Marriages	Mar. Rate*	Deaths	Death Rate*
1926	9,234	18.0±.1	2,770	5.3±.06	7,073	13.6±.1
1925	9,926	19.4±.1	3,076	6.0±.06	6,561	12.8±.1
1924	10,543	21.0±.1	3,293	6.5±.07	6,439	12.8±.1

*Rates on annual basis per 1,000 population

Births

The births for the month total 2,190 which is a total less than the 1925 figures by 255. In 1925 reports of 2,445 births were received. The birth rate is only 16.9 per 1,000 population. Last month the rate was 17.7 and this figure was considered as very low. However, the 16.9 of April is .8 point below this.

Eighteen towns over 5,000 population reported more births in 1926 than in the corresponding month for 1925. Six of these reported increases of 10 or more. They are as follows, with the actual increase and chance fluctuation thereof:

Ansonia	12± 7	Hartford	20±26
Bridgeport	27±21	New Haven	28±25
Derby	10± 8	Stamford	20±13

None of these increases is of statistical significance.

Stillbirths

During the month 93 stillbirths were reported as compared with 99 in 1925. The rate of stillbirths per 1,000 total births was 41.6±4.2 in 1926 as compared with 38.9±3.9 in 1925. The difference in these rates is of no significance.

As to the sex distribution, the males were in the majority by 52 to 41. This is a sex ratio of 127 males to 100 females. Last month the sex ratio was 134 males to 100 females.

So far during the year there have been 357 stillbirths of which 199 were males and 158 females. The probable sex division of 1,000 stillbirths is, from figures above, males, 557 ±39; females, 443±37. Here is a difference of 114±53 in favor of the male. Last month the difference was 114±61. The only change which has taken place is a decrease in the chance fluctuation. It is now apparent that change in the

actual difference will be small, but there will be greater change in the chance dispersion. The difference of 114±53 is not as yet significant. It will become so before the year is over.

Deaths

Reports of 1,861 deaths were received as compared with 1,644 in 1925. This is an increase of 217. The rate, on an annual basis per 1,000 population, is 14.3 and is the highest to appear in the last six years. So far this year, and not including late reports, 1926 is more than 500 deaths ahead of 1925. The rate for the first four months is 13.6±.1 as compared with 12.8±.1 in 1925 and 1924. This increase cannot be explained as a chance phenomenon. It seems likely now that 1926 is to be a year of increased death rate inasmuch as a reduction in rates must be effected in the relatively unfavorable winter months. These months have produced an increase instead of decrease and it is hardly likely that the favorable summer months will be by so much the more favorable as to overcome the debit already charged against the unfavorable. Below is a comparison of 1926 with 1925 as compared with 1925 for certain diseases, exhibiting the increase and decrease together with their respective chance dispersions.

Cause of Death	1926	1925	Increase	Decrease
Diseases of heart	254±16	216±15	38±22	....
Epidemic encephalitis	0	2± 1	....	2± 1
Pneumonia undefined	2± 1	1± 1	1± 2	....
Typhoid fever	0	4± 2	....	4± 2
Measles	26± 5	3± 2	23± 5	....
Scarlet fever	3± 2	4± 2	....	1± 3
Whooping cough	12± 3	12± 3	....	....
Diphtheria	7± 3	15± 4	....	8± 5
Influenza	168±13	71± 8	97±15	....
Tuberculosis, pulmonary	96±10	99±10	....	3±14
Tuberculosis, other forms	21± 5	14± 4	7± 6	....
Cancer	132±11	135±12	....	3±16
Cerebrospinal meningitis	1± 1	3± 2	....	2± 2
Poliomyelitis	1± 1	0	1± 1	....
Lobar pneumonia	138±12	97±10	41±15	....
Broncho pneumonia	123±11	80± 9	43±14	....
Diarrhoea & enteritis (Under 2)	9± 3	12± 3	....	3± 5
Puerperal diseases	11± 3	12± 3	....	1± 5
Accident	64± 8	95±10	....	31±13
Suicide	14± 4	14± 4	....	....
Homicide	3± 2	8± 3	....	5± 3
Other causes	776±28	747±27	29±36	....
Totals	1,861±43	1,644±41	280	63

Before examining any specific cause of death, it will be noted that the increase of Other Causes over 1925 is not of any statistical importance. From this it may be concluded

that the diseases listed above, except other causes, account for the increase in total deaths. It must also be borne in mind that Other Causes include many diseases. We may expect therefore to find the increase, or substantially the entire increase, contained in the list above. There are four increases which are significant. They are Measles, increase 23 ± 5; Influenza, 97 ± 15; Lobar Pneumonia, 41 ± 15; Broncho Pneumonia, 43 ± 14. The most significant increase is that in Influenza, the increase being more than six times its chance dispersion. The increase in this disease seems to have been rather widespread over the nation. The next increase in point of significance is that in Measles. Measles has been unusually prevalent this year. During April 2,427 cases were reported. The 26 resultant deaths indicate a case fatality rate of about 1.1 per cent. So far this year 12,288 cases have been reported with 142 deaths. These figures give a fatality rate of about 1.2 per cent. During the entire year of 1925 37 deaths resulted from measles.

The total increase in all deaths is 217. Combining the increases of measles, influenza, lobar and broncho pneumonia gives a total of 204. These diseases therefore account for the increase.

Of the decreases, only one is significant. It is the decrease in accidental deaths. It is of encouraging promise for the future to note that most of this decrease is in deaths due to automobile accidents. Last year there were 39 such deaths and this year 18. Here is a decrease of 19 ± 8, and is apparently significant.

FOR SIX YEARS—APRIL, 1926

CONNECTICUT	1921	1922	1923	1924	1925	1926
BIRTHS *Birth Rate*	2958 25.0	2436 20.2	2564 20.9	2567 20.5	2445 19.2	2190 16.9
DEATHS *Death Rate*	1416 12 0	1564 13.0	1704 13.9	1516 12.1	1644 12.9	1861 14.3
MARRIAGES *Marriage Rate*	1117 9.4	929 7.6	1166 9.4	959 7.7	971 7.6	913 7.0
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	203 14.3	224 14.3	238 14.0	180 11.9	211 12.8	316 16.9
DEATHS UNDER 1 YEAR *Rate Per 1,000 Births*	213 75.0	238 91.3	266 104.0	165 62.5	199 80.7	207 84.3

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

April, 1926 Statistics	Population Est. as of July 1, 1926 Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Stillbirths	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,558,996	2190	93	913	1861	14.3	0.7	83.5	207	121	706
Ansonia	19,291	29	1	9	24	14.9	2.5	253.5	6	1	10
Branford	7,014	7	....	3	3	5.1	1.7	....	....	....	3
Bridgeport	170,717	241	10	98	205	14.4	0.8	101.9	26	14	63
Bristol	25,354	44	3	16	17	8.0	0.9	20.2	1	2	6
Danbury	21,931	42	....	16	35	19.2	2.2	91.3	4	1	12
Derby	12,732	41	3	6	22	20.7	....	85.3	3	....	9
East Hartford	13,950	5	....	4	10	8.6	0.9	163.3	2	1	1
Enfield	13,039	23	1	14	12	11.0	....	85.1	2	2	3
Fairfield	15,041	7	1	4	13	10.4	0.8	133.3	2	2	4
Glastonbury	6,124	9	....	5	2	3.9	....	....	....	....	2
Greenwich	25,790	37	3	62	21	9.8	....	157.5	6	....	7
Groton	11,045	11	2	2	18	19.6	1.1	220.2	2	3	5
Hamden	10,434	12	1	3	11	12.7	1.2	....	....	1	6
Hartford	164,228	343	16	102	224	16.4	0.5	91.1	30	17	72
Killingly	9,218	7	....	7	8	10.4	1.3	....	....	....	6
Manchester	21,505	37	1	15	20	11.2	....	79.8	3	1	9
Meriden	36,529	48	....	9	58	19.1	1.0	127.3	8	4	25
Middletown	22,891	....	....	....	....	....	....	....	....	....	....
Milford	14,073	....	....	....	....	....	....	....	....	....	....
Naugatuck	16,589	13	1	6	13	9.4	....	....	....	....	5
New Britain	69,482	111	3	37	65	11.2	0.9	72.9	10	6	22
New Haven	181,823	332	16	122	204	13.5	0.8	50.2	16	12	73
New London	29,566	52	2	32	30	12.2	0.4	48.4	3	1	11
Norwalk	29,859	41	3	23	48	19.3	1.2	93.5	5	3	23
Norwich	30,576	60	2	30	64	25.1	0.4	93.5	6	2	22
Plainfield	8,694	3	....	11	5	6.9	....	80.5	1	....	4
Plymouth	6,364	6	....	2	5	9.4	....	303.8	2	....	2
Putnam	9,105	14	2	10	18	23.7	....	60.9	1	2	8
Seymour	8,116	1	....	....	8	11.8	....	360.0	3	....	5
Shelton	11,398	7	....	5	16	16.8	....	....	....	....	5
Southington	9,727	14	....	....	10	12.3	....	74.5	1	....	5
Stafford	5,454	18	....	2	8	17.6	....	67.0	1	1	4
Stamford	47,373	94	3	39	74	18.7	1.3	85.5	8	11	15
Stonington	10,930	11	....	7	21	23.1	1.1	....	....	....	12
Stratford	16,768	19	....	4	15	10.7	1.4	57.1	1	2	10
Thompson	5,203	5	....	2	5	11.5	....	....	....	....	2
Torrington	24,929	27	1	17	44	21.2	....	122.7	5	5	16
Vernon	8,787	11	....	4	10	13.7	....	170.2	2	....	6
Wallingford	12,571	12	....	6	12	11.5	....	....	....	....	8
Waterbury	104,047	155	6	56	154	17.7	0.9	135.8	25	18	41
Watertown	7,359	8	....	2	11	17.9	....	....	....	....	5
West Hartford	11,562	16	....	7	12	12.5	....	203.4	3	2	3
West Haven	18,334	29	1	11	20	13.1	....	31.4	1	....	8
Westport	5,685	4	....	2	7	14.8	....	206.8	1	....	2
Wethersfield	5,141	3	....	2	7	16.3	....	....	....	....	4
Winchester	9,074	8	....	3	20	26.4	....	....	....	2	14
Windham	14,391	20	3	....	17	14.2	....	186.3	5	....	6
Windsor	6,584	5	....	1	2	3.6	1.8	....	....	....	1
Towns under 5,000	212,599	148	8	95	233	13.2	1.6	47.1	12	5	121

for the month of April, 1926

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
254		2		26	3	12	7	168	96	21	132	1	1	138	123	9	11	64	14	3	668	262
3						1	1	4	2		1			1							1	
															1							
26				1		2	1	29	10	3	9			17	15		2	5	1	1	95	12
6								1	2		1				1					1	3	1
3				1				5	3		1		1		3	1		1			14	3
4								2			1			3	1			1			11	9
1				1					1	1				1	1				1			
2								2							2							
1					1			3	1						1			1	1			2
3											3	1			3			1			10	2
				3				1	1					2				4			1	3
2								2	1		2			1				1				1
37				3		1		10	5	5	21			15	13	4	1	13			130	64
								1	1								1	2			1	
3								1			4			1	2			1			5	
5				1	1			5	1	1	1			6	7		1	4			16	6
1								1			3			3								
10						2	1	4	5		3			5	6		1	1			18	4
27		1		1		1	1	12	7	4	14			18	12			6	2		128	31
5								2	1		1			7	4						15	5
7				1				5	2		7			1	3				1		8	1
10				2			1	8	12	1	3			2	1			3			31	19
								1			1											
1																						
3											2			2	1			2			6	6
2								1							1							
3								1	8										2		8	9
4														1								
											1				2			1			3	2
4				5		1		10	4		4			10	4		3	1			26	8
4								3	1		2			2	2							
3								1		1	2			1	1							3
														1	1							
5						1		10			5			5	8						10	2
2								1						1							2	
3											1							1	1		7	
10				2			1	14	4	4	11			18	13	4	1	3			60	12
2					1			3			1								1			
2				1				1			1									1	4	2
2								3	5						1			1			6	7
1								2						1				1				1
1																		1			1	
2						1					3			2	3						5	1
								1			1				2			2				
1														1								
43		1		4		2	1	18	19	1	22			10	8		1	7	4		43	46

Laboratories

SUMMARY OF BUREAU ACTIVITIES FOR MAY, 1926

DIAGNOSTIC

	+	—	?	Unclassified	Total	
Typhoid	7	102	....	....	109	
Paratyphoid A	....	109	....	....	109	
Paratyphoid B	3	106	....	....	109	
Diphtheria	62	684	....	....	746	
Diphtheria Virulence	6	8	....	....	14	
Vincent's Angina	4	279	....	....	283	
Haemolytic Streptococci	13	269	....	....	282	
Tuberculosis	29	135	....	....	164	
Syphilis	328	1,584	215	....	2,127	
Gonorrhoea	23	101	....	....	124	
Pneumonia	2	2	....	....	4	
Malaria	....	1	....	....	1	
Rabies	9	6	1	....	16	
Special Specimens	4	34	....	1	39	4,127

CHEMICAL AND BACTERIOLOGICAL

Milk samples	377	
Water samples	218	
Sewage samples	51	
Sea water samples	84	
Clinical thermometers examined	75	805
Total examinations made		4,932

Yale Students Inspect Laboratories

During the month the students at Yale University who are taking courses in general bacteriology under Professor Leo F. Rettger made a visit of inspection to the Bureau of Laboratories, accompanied by the instructorial staff. The group, comprising about twenty men and women, made the trip from New Haven in a specially chartered automobile bus. At the Laboratories several hours were spent by the laboratory staff in lectures and demonstrations of the work of the Bureau. A few weeks ago the students of Professor C.-E. A. Winslow in the courses of public health made a similar visit of inspection.

This is an important service that the Laboratories can render, to acquaint interested students in the universities and colleges of the State with this phase of health work. Similar visits from students in other institutions can be arranged for by professors or instructors, if desired.

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF MAY, 1926

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of May, 1926, with the corresponding month for the years 1921, 1922, 1923, 1924 and 1925.

DISEASE	Average 1921-1925 for May	Mean 1921-1925 for May	1921	1922	1923	1924	1925	1926
Cerebrospinal Meningitis	7	9	9	10	10	4	4	5
Diphtheria	157	152	178	152	226	125	103	84
Encephalitis Epidemic	5	5	5	6	6	4	5	4
Measles	930	985	342	1,664	1,035	625	985	2,293
Poliomyelitis	1	1	1	3	1	1	1	....
Scarlet Fever	355	348	299	272	348	495	362	348
Smallpox	14	12	....	53	1	12	2	....
Typhiod Fever	20	15	45	11	12	15	19	12
Tuberculosis Pulmonary	139	137	131	161	164	137	104	146
Whooping Cough	253	224	317	136	224	109	481	216

A comparison of the morbidity on these diseases for the two preceding months, March and April, with the May record is as follows:

	March	April	May
Cerebrospinal Meningitis	4	5	5
Diphtheria	190	65	84
Encephalitis Epidemic	2	2	4
Measles	4,670	2,427	2,293
Poliomyelitis	2	1	....
Scarlet Fever	423	392	348
Smallpox	....	....	....
Typhoid Fever	6	4	12
Tuberculosis (pulmonary)	145	130	146
Whooping Cough	503	266	216

Cases of Other Reportable Diseases

Chickenpox	236
Conjunctivitis Infectious	7
Dysentery Bacillary	1
Encephalitis Epidemic	4
German Measles	247
Influenza	40
Malaria	1
Mumps	45
Septic Sore Throat	1
Gonorrhoea	101
Syphilis	108
Total	791

Cases of Occupational Diseases

Carbon Monoxide	1
Dermatitis	6
Lead Poisoning	1
Mercurial Poisoning	4
Total	12

Cases of Certain Reportable Diseases

May, 1926	Population Est. as of July 1, 1926	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Broncho-Pneumonia	Other Com. Diseases
State Total	**1,558,996**	**12**	**2293**	**348**	**216**	**84**	**5**		**146**	**10**	**178**	**184**	**791**
NEW HAVEN CO.	**467,392**		**656**	**110**	**86**	**15**	**2**		**34**	**7**	**31**	**25**	**291**
New Haven	181,823		349	34	60	1			14	7	5	5	212
Waterbury	104,047		10	20	3	4	2		8		7	12	20
Meriden (city and town)	36,529		75	15	2				9		6	4	16
Ansonia	19,291		2			5					2		2
West Haven	18,334		49	8	3				1		1	1	9
Naugatuck	16,589												2
Wallingford (town and boro)	12,571		9	2		2							
Milford	14,073		1	12									1
Derby	12,732					1			1				
Hamden	10,434		96	7	12						6	2	4
Branford (town and boro)	7,014		11								1		13
Seymour	8,116			1		1							
Towns under 5,000	25,839		54	11	6	1			1		3	1	12
FAIRFIELD CO.	**371,561**	**1**	**427**	**122**	**31**	**34**	**1**		**38**	**1**	**46**	**32**	**129**
Bridgeport	170,717	1	18	72	9	15			28	1	19	14	32
Stamford (city and town)	47,373		71	9	5	11			2		11	4	27
Norwalk	29,859		182	4	1	6			1		1		
Danbury (city and town)	21,931		12	1					1		4	6	3
Greenwich (town and boro)	25,790		53	1	7	1	1		2		5		19
Stratford	16,768		1	20	1						2	2	2
Fairfield	15,041		1	9	2	1			2		2		22
Shelton	11,398			1								1	1
Westport	5,685		3	1									4
Towns under 5,000	26,999		86	4	6				2		2	5	19
HARTFORD CO.	**393,501**	**4**	**660**	**36**	**68**	**20**	**1**		**36**	**2**	**56**	**66**	**238**
Hartford	164,228	3	69	14	13	11			12	1	23	33	118
New Britain	69,482		294	11	23	1			2		15	16	83
Bristol (city and town)	25,354		13	1	12	4			6	1	4	4	11
Manchester	21,505		7	1							5	2	1
Enfield	13,039		4	3		1			2			1	4
East Hartford	13,950		4	2	1				4			4	2
Southington (town and boro)	9,727		23		3				3		1		2
West Hartford	11,562	1	66		11	1			3			1	7
Windsor	6,584		9										1
Glastonbury	6,124		26								1	1	
Wethersfield	5,141		3	4							1		2
Towns under 5,000	46,805		142		5	2	1		4		6	4	7
NEW LONDON CO.	**113,554**	**7**	**248**	**41**	**4**	**13**	**1**		**22**		**5**	**5**	**29**
Norwich (city and town)	30,576			5	1	2	1		5			2	1
New London	29,566	7	7	17	1	1			5		4	1	6
Stonington (town and boro)	10,930		70	1									
Groton (town and boro)	11,045		49	14	2	10							5
Towns under 5,000	31,437		122	4					12		1	2	17
LITCHFIELD CO.	**80,282**		**65**	**18**	**6**	**1**			**8**		**10**	**4**	**38**
Torrington (town and boro)	24.929		2		6				3		2	1	8
Winchester (inc. Winsted)	9,074												
Plymouth	6,364		8	7					3				1
Watertown	7.359			6							3		12
Towns under 5,000	32,556		55	5		1			2		5	3	17
WINDHAM CO.	**55,799**		**97**	**14**		**1**			**5**		**2**	**8**	**34**
Windham (inc. Willimantic)	14,391		51	1		1			1			7	2
Putnam (city and town)	9,105		6						1			1	8
Plainfield	8,694												1
Killingly (inc. Danielson)	9,218		5	11							1		5
Thompson	5,203		2										1
Towns under 5,000	9,188		33	2					3		1		17
MIDDLESEX CO.	**49,185**		**49**	**5**	**21**				**3**		**22**	**39**	**26**
Middletown (city and town)	22,891		22	1	19						12	32	10
Middletown State Hospital									3				
Towns under 5,000	26,294		27	4	2						10	7	16
TOLLAND CO.	**27,722**		**91**	**2**							**6**	**5**	**6**
Vernon (inc. Rockville)	8,787			2									1
Stafford (town and boro)	5,454										3	4	2
Towns under 5,000	13,481		91								3	1	3

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 40 July, 1926 No. 7

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STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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CONNECTICUT STATE DEPARTMENT OF HEALTH
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CONNECTICUT

HEALTH BULLETIN

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STATE DEPARTMENT OF HEALTH

COURT UPHOLDS ACTION

The New Haven County Superior Court has made the decision given below in regard to an individual, who after passing the Connecticut Eclectic Medical Examining Board in June, 1925, brought action against the state department of health to compel the state to issue him a certificate of registration or license to practice medicine in Connecticut.

Failing to secure this license, he started practicing medicine in Meriden and was prosecuted for such action. Following this, proceedings were taken at the New Haven County Superior Court which resulted in the following decision:

AMEDEO PASCIUTA	NEW HAVEN COUNTY
vs	SUPERIOR COURT
STANLEY H. OSBORN et al	JUNE 9th, 1926

Memorandum of Decision

The Commissioner of Health is by statute made the administrative head of a department of primary importance. The function of the department is the preservation of the lives and health of the people of the State of Connecticut.

That a person in need of medical or surgical treatment shall receive skillful attention at the hands of a duly registered and licensed physician is of vital concern to civilization and to the departments of all enlightened government.

The health commissioner's decision that the relator is not entitled to practice is not to be upset unless his action is contrary to law. The extraordinary writ of mandamus is not to be granted under any circumstances if it will promote manifest injustice.

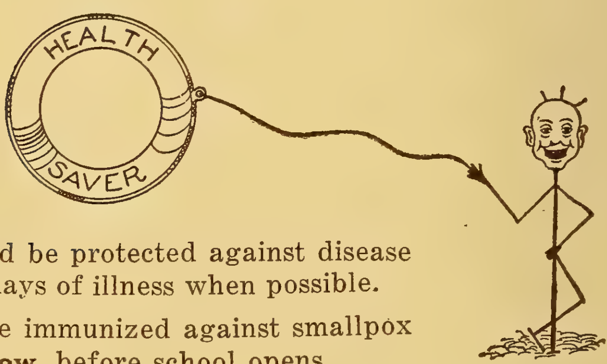
The relator made a sorry show of his fitness as he testified before me. His medical education was and is a sham. That the State of Connecticut should license him and hold him out to its people as a man qualified by education and experience to be the custodian of priceless lives is inconceivable. This Court will not be a party to such grievous public mischief. The application for a peremptory writ of mandamus is denied.

The law supports this denial. Sec. 2857 of the General Statutes requires that every applicant for examination under the provisions of this chapter shall be examined by the Committee representing the same school of practice in which the applicant was graduated. This applicant was not so examined. The St. Louis College of Physicians and Surgeons is not one whose graduates can lawfully be examined by our eclectic board.

The relator did not attend this school for four years. He fulfilled the requirement of law that his moral character be vouched for by two reputable citizens by producing the signatures of two doctors whose licenses have been revoked for fraud. The relator has been convicted of illegally practicing medicine in this state. The three members of the relator's examining board have had their licenses revoked on the ground of fraud.

If anything more should be said, it is related in the finding of a distinguished member of this court in Vol. 103 of the Connecticut Reports, Page 69-81.

(Signed) Ells, Judge



Children should be protected against disease and saved from days of illness when possible.

They should be immunized against smallpox and diphtheria **now**, before school opens.

REGULATIONS CONCERNING BARBERS AND BARBER SHOPS THROUGHOUT THE STATE OF CONNECTICUT

Adopted by the State Board of Examiners of Barbers and Approved by State Department of Health.

Inspection

Regulation 1. All barber shops shall be open for inspection at any time during business hours to the State Board of Examiners of Barbers.

General Sanitation

Regulation 2. All barber shops, floors and walls, together with their furniture, fixtures, instruments and utensils must be kept in a clean and sanitary condition. Barbers working in any shop must keep themselves and their wearing apparel clean and in a sanitary condition.

Individual headrest covering must be supplied for each person served.

The use of the same piece of solid soap in any form for more than one customer is prohibited.

In any shop where female help is employed a separate toilet must be supplied for their use.

Hands

Regulation 3. Every barber shall thoroughly cleanse his hands immediately before serving each customer.

Instruments

Regulation 4. Shaving mugs and lather brushes must be thoroughly cleansed with hot water before being used. All razors, scissors, needles, pincers, and other instruments, shall be cleansed and sterilized after each separate use either by boiling in water for five minutes or by some other method approved by the State Department of Health. Combs and brushes shall be kept thoroughly cleansed with soap and hot water.

Towels

Regulation 5. Clean towels, whether dry or wet, shall be used for each person served. All laundering must be done outside of the shop by the use of steam or boiling water in addition to other cleansing agents. Used towels shall not be placed in the sterilizer nor washed nor rinsed in the barber shop.

Styptics

Regulation 6. The use of styptic sticks or pencils is prohibited. All astringents for cauterizing bleeding points or for other purposes, must be used in powdered or liquid form and shall be applied only on a clean cloth or towel or other clean appliance.

Powder Puffs

Regulation 7. The use of powder puffs and sponges is prohibited.

Ventilation and Water

Regulation 8. Barber shops shall be properly and adequately lighted and ventilated and shall be provided with running hot and cold water, if obtainable.

Sleeping Room

Regulation 9. No barber shop shall be used as a living, cooking or sleeping apartment, and no room adjoining a barber shop shall be used for these purposes without the written permission of the Inspector of the State Board of Examiners of Barbers.

Contagious Disease

Regulation 10. No person suffering from any communicable disease or eruption of the face, scalp or neck shall be served in any barber shop.

Outside Work

Regulation 11. All tools or instruments used by barbers outside of the of the shop in serving any person suffering from any sickness, whether the sickness be communicable or not, must be boiled at least five minutes or disinfected by some other method approved by the State Department of Health before being used again. Instruments used on a corpse must not be used for any other purpose.

Barber's Health

Regulation 12. No person suffering from any communicable disease shall serve any person in any barber shop. No proprietor of any barber shop shall knowingly permit an employee who is afflicted with any venereal or other communicable disease to serve persons.

Penalty

Regulation 13. Any person violating any of these rules and regulations shall, upon conviction, be fined a sum not to exceed Fifty Dollars ($50.00).

I hereby certify that the above rules and regulations, as submitted by the State Board of Examiners of Barbers, were approved by the State Department of Health at its regular meeting held on the fifth day of April, 1926.

In witness whereof, I hereunto set my hand and the seal of the State Department of Health, this seventh day of April, 1926.

STANLEY H. OSBORN,
Commissioner of Health.

BIAGIO SALVATORE, President,
P. O. Box 291, Saugatuck, Conn.

ALPHONSE J. BORDEAU, Sec'y and Treas.,
16 Whiting Street, Plainville, Conn.

JOSEPH ARENA,
863 Main Street, Hartford, Conn.

State Board of Examiners of Barbers.

Public Health Nursing

MAKING A RECORD FOR HERSELF

By Margaret K. Stack

About six years ago a public health nursing association was started in a certain town in Connecticut. The association was fortunate in securing a qualified public health nurse who was recommended by this department. She entered into her work in the new field with all the enthusiasm and ambition one could wish. Being the only trained worker in the town, many problems of a social service nature were referred to her and she cared for them in a very creditable manner. But with these increasing calls for her services her time became so filled she seemed unable to spare even twenty minutes a day to record what she had done.

During these busy days she remembered with some uneasiness that during her hospital training, no matter how busy the ward, time had to be taken to chart what was done for the patients. Her public health nurse training also emphasized the need and value of accurate records and reports. She eased her mind by telling herself that it was different in this town where everyone knew everyone else and knew that she was busy all the time and doing good work. And so she continued to fool herself, and after being in her position a few months the following report came to this department:

Total Patients	34	New patients	12
Advisory visits	6	Two patients were taken to the hospital and one died.	
Social Service patients	5		

Not a very interesting or illuminating report and certainly not one to stir dormant interests into activity. The nurse was busy, "too busy", she thought, to take time to put down anything except the few items given above.

Need for Accurate Records

It is not necessary to tell here the facts which led to this nurse's realization that she, in neglecting her records, was on the wrong path. Suffice to say that the same nurse is doing good work in Connecticut today, and better still she realizes that accurate records and reports are the only way she has of knowing what is being accomplished. She is busier today than when the association started and yet each day sees the record work for that day finished, and each

month's report shows the amount and type of curative and educational work being done in that town.

A few items from her latest report are of interest for comparison:

Total no. of patients	156	Tuberculosis	1
General patients	5	Total visits	207
Pre-natal	5	of which 138 were nursing visits and 69 educational visits.	
New born	2		
Child Hygiene	142		

Time spent in the office and at Well Baby Conferences, 30 hours, and in addition she spent approximately 30 hours in school nursing, which is not reported in the above.

The improvement in record keeping and the use of a uniform monthly report supplied by this department has been brought about through the Bureau of Public Health Nursing. Eight years ago there was no way of knowing what was being done by public health nurses in Connecticut, as few were keeping adequate records and no two associations were using the same kind. Now, because this nurse and many others realize the value of accurate records and reports the State Department of Health knows what is being done in public health nursing and each nurse keeping such records and reports is able to give to the people financing the work an accounting of what is actually being done in their town. Accurate bookkeeping is essential for every public health nursing association and it is gratifying to know that most of the associations realize this fact and use records of an approved type and the monthly reports supplied by this department.

The March monthly reports of 63 associations, all nonofficial organizations, shows that "the old order changeth."

Summary of Work Done by 63 Public Health Nursing Associations During Month of March, 1926

	Total	General	Pre-Natal	Maternity	New Born	Child Hygiene	Pul. Tuber.	Other Tuber.	Other Communicable Diseases
Pts. under care 1st of mo.	26,101	1,867	755	422	68	15,566	1,074	438	45
New Patients	5,161	3,164	311	300	320	829	75	12	345
Pts. under care during mo.	31,262	5,031	1,066	722	388	16,395	1,149	450	390
Pts. discharged—total no.	4,278	2,697	62	349	81	1,203	69	10	277
Pts. under care end of mo.	26,984	2,334	1,004	373	307	15,192	1,080	440	113

This is in marked contrast to ten years ago when many of the visiting nurses did bedside work only. Today they are doing not only a certain amount of bedside nursing but educational work as well. The increase in the educational work is shown in the number of pre-natal, child hygiene and tuberculosis cases under care. Out of a total of 42,087 visits,

one-third were given for educational work, and in addition 165 health talks were given. The number of nursing visits is larger in proportion than for other months, due to the fact that influenza was prevalent during March and each public health nursing association was taxed to its utmost during this emergency.

Her Daily Rounds In the Community

No mention is made on such reports of the many things that the nurse finds daily in her work, such as persuading the parents of a nearly blind child who is being neglected mentally that the child should be sent to an institution where he will learn to read and write—that the crippled youth must have medical care and treatment in order to make him a useful citizen and not remain helpless all his life—that the feeble-minded child needs institutional care—that the woman who has worried about a lump in her breast should see a doctor immediately—that going to the dentist is better treatment for an abscessed tooth than putting horse liniment on it. These and many of similar nature go to make up the life of the public health nurse in her daily rounds among the people.

The visit of the public health nurse today means not only giving bedside care if necessary, but it involves the social situation of the whole family group. The visit of the nurse is not only remedial—it is educational in that her main effort is directed to instructing people according to the latest medical science how to care for themselves and prevent illness by the right ways of living.

Since 1918 when the Connecticut State Department of Health undertook the development of public health nursing the value of the health educational side of the nurse's work has been kept before the associations and so today, after eight years of effort and cooperation on the part of the nursing associations and nurses and the State Department of Health, Connecticut has made a beginning with a public health nursing program that it is hoped will spread so as to include the 81 towns in the state that today are without such service.

NEWS NOTES FROM THE FIELD

Appointments of Health Officers:

The Fairfield County Health Officer has appointed Edward L. Kingman, M. D., health officer of Newtown to take the place of the late Dr. Kiernan.

Second Clinical Congress:

The Connecticut State Medical Society has announced the second Clinical Congress to be held in New Haven September 21-23, 1926. All sessions are to be held at Sprague Memorial Hall, College Street, corner of Wall Street.

The Preliminary Program states that beside the special papers there will be two evening sessions, the first to be a Round Table Conference on Periodic Health Examinations, the second a Smoker at the New Haven Lawn Club.

The following subjects will be considered:

- Progression and End Results of Hypertension.
- Critique of Gland Therapy.
- Present Status of Arthritis and Its Treatment.
- Low Backache.
- The Most Common Types of Nervous Diseases.
- The Relation of Modern Physiologic Research to "Stomach Trouble."
- Fracture of the Hip in the Aged.
- The Diagnosis of Bone Diseases in Children.
- Infant Feeding.
- Prostatecomy, When and Why.
- Contra-indications to Radium in Uterine Tumors.

Local arrangements include the use of one of the Yale University Dormitories, and the University Dining Hall for the accommodation of Congress members, who are admitted to all sessions on a fee of ten dollars. This fee also includes luncheon the three days, auto parking and garage space, and one copy of the printed abstracts of the papers.

Further information may be obtained through

Dr. Creighton Barker
129 Whitney Ave., New Haven Conn.

Vacancies in Public Health Nursing.

Six different public health nursing associations in Connecticut have written this department for assistance in securing nurses. With the exception of one association which wishes a registered nurse, the others desire nurses who have had public health nurse training or supervised experience. Any nurse interested in any of these positions should send her name and address to the State Department of Health, Hartford.

Laboratories

SUMMARY OF BUREAU ACTIVITIES FOR JUNE, 1926

DIAGNOSTIC

	+	—	?	Unclassified	Total	
Typhoid	2	57	2	....	61	
Paratyphoid A	....	61	....	....	61	
Paratyphoid B	....	61	....	....	61	
Diphtheria	41	1,176	....	....	1,217	
Diphtheria Virulence	6	7	....	....	13	
Vincent's Angina	9	251	....	....	260	
Haemolytic Streptococci	7	252	....	....	259	
Tuberculosis	37	100	....	....	137	
Syphilis	354	1,857	246	....	2,457	
Gonorrhoea	30	83	....	....	113	
Pneumonia	1	....	....	....	1	
Malaria	1	....	....	....	1	
Rabies	7	15	....	....	22	
Special specimens	....	15	....	3	18	
						4,681

CHEMICAL AND BACTERIOLOGICAL

Milk samples	387	
Water samples	438	
Sewage samples	1	
Sea water samples	223	
Oyster samples	93	
Clinical thermometers examined	325	1,467
Total examinations made		6,148

INCREASE IN WATER AND SHELLFISH SAMPLES

Increased activities may be noted in the number of samples of water, sea water and shellfish. The increase in water samples is due in great part to samples of water from roadside water supplies by the Bureau of Sanitary Engineering. The shellfish boat is again on the water and the bacteriologists have been busy in determining the purity of shellfish and the sea water in which the shellfish thrive. The field work is carried on by the Bureau of Sanitary Engineering.

Vital Statistics

MONTH OF MAY

TOTALS TO DATE, FIRST FIVE MONTHS, 1926, 1925, 1924

	Births	Birth Rate*	Marriages	Mar. Rate*	Deaths	Death Rate*
1926	11,636	17.9±.1	3,645	5.6±.06	8,670	13.3±.1
1925	12,490	19.6±.1	3,938	6.2±.06	8,054	12.6±.1
1924	13,298	21.2±.1	4,224	6.7±.07	7,781	12.4±.1

*Rates on annual basis per 1,000 population

The figures given above are accumulated totals for the past three years. And the rates have been referred to the usual annual basis. It will be observed that the birth rate in 1926 is 1.7 below the rate in 1925; that 1925 is 1.6 below 1924. In other words, the decrease has been approximately the same with respect to these identical reference points. Such differences of 1.7 and 1.6 cannot be accounted for as mere chance phenomena, for each of them has a fluctuation of sampling equal to 0.1. That is, the difference of 1.7 should be written as 1.7 ± .1 and the difference of 1.6 as 1.6 ±.1. Here, it will be observed, are values which are 17 and 16 times their standard deviations. Such fluctuations have something deeper than pure chance, under which events sail smoothly along with relatively narrow limits for variation. The figures say that something is causing this decrease. To attempt the explanation would be to carry speculation further than is advisable at this time. Children are not being born.

The deaths show a marked increase over 1925. In numbers the increase is 616 and in rate it is 0.7±.1. Here is an increase in rate 7 times its standard deviation, and again we are confronted with an increase, this time, which cannot be dismissed, with a wave of the hand, into chance phenomena. The deaths for the year are running higher than might normally be expected. Last month we found very significant increases in measles, influenza, lobar and broncho pneumonia. Later in this article we will analyze the figures for certain causes and may discover where the increases lie.

Similarly, the marriages show very decided variations. 1926 shows a decrease in rate of .6 where .1 might have been expected.

Births

During the month 2,356 births were reported to this office as compared with 2,566 in 1925. Here is a decrease of 210.

The rate of 18.1 is very low and the lowest to appear in the last six years for May. However, it is not as low as the 16.9 of April which in all probability is the lowest ever to be recorded in any month.

Fifteen towns over 5,000 in population reported more births in 1926 than in 1925. In six of them the increases were of 10 or more. These towns were the following:

Bristol	10±11	New London	21±10
Greenwich	19± 9	Norwalk	11±11
Hartford	65±26	Southington	11± 6

Of these increases, four appear to be of more than passing notice, namely those for Greenwich, Hartford, New London and Southington. The others are of no significance. The four which are deemed significant are at least twice, or very nearly twice, their standard deviations. Even these would by some be considered of questionable significance if, as is frequently the rule, **three** times the standard deviation be considered the minimum to establish significance.

Stillbirths

Records of 90 stillbirths were received as compared with 102 in 1925. The decrease is 12. This gives a monthly stillbirth rate of 36.8±3.7 per 1,000 **total** births. In 1925 the corresponding figures were 38.2±3.8. Thus it will be seen that there has been a slight decrease in the rate, but it is of no significance.

For the month, the sex distribution of the stillbirths was 53 male and 37 female. These figures give a rate of 143 males to 100 females. Expressed in probabilities referred to 1,000 stillbirths there results 588 ±82 males and 412±65 females. The difference here is 176 ±104 and shows no significance.

Let us examine the figures for the year, so far. There have been 447 stillbirths, including the 90 for May. Of these 252 were males and 195 females. The probability therefore of a male stillbirth is 252/447 or 0.5637 and for a female stillbirth 0.4363. If these figures are changed to 1,000 stillbirths and the chance fluctuation be calculated there will result 564±37 males and 436±31 females. The difference here is 128±48 in favor of the male. This difference, it will be observed, is slightly more than 2.5 times its dispersion. This may be considered as significant. Thus, month by month the accumulated sex difference in stillbirths has been approaching significance and while a month considered by itself may not give a sex difference worthy of note the effect is finally definite and determined after five months. From now on this difference in the sex distribution of stillbirths will become increasingly significant. It will be followed each month throughout the remainder of the year.

Deaths

We are again confronted with an increase in the number of deaths over the preceding year. This increase however only results in an increase of 0.1 in rate on an annual basis. For the current year there were 1,530 deaths and in 1925 there were 1,493. This is an increase of 37 which, by itself, would be of no importance. From chance alone a difference, increase or decrease, of at least 55 might have been expected. Evidently there will be but small accounting this month for the increased number of deaths already experienced this year and mentioned earlier in this article.

Examining certain causes of death and comparing 1926 with 1925 the following table results.

Cause of Death	1926	1925	Increase	Decrease
Diseases of Heart	220±15	222±15	....	2±21
Epidemic Encephalitis	6± 2	4± 2	2± 3	....
Pneumonia Undefined	4± 2	0	4± 2	....
Typhoid Fever	1± 1	2± 1	....	1± 2
Measles	24± 5	2± 1	22± 5	....
Scarlet Fever	2± 1	5± 2	....	3± 3
Whooping Cough	11± 3	10± 3	1± 5	....
Diphtheria	4± 2	6± 2	....	2± 3
Influenza	44± 7	35± 6	9± 9	....
Tuberculosis Pulmonary	107±10	97±10	10±14	....
Tuberculosis Other Forms	9± 3	15± 4	....	6± 5
Cancer	131±11	158±13	....	27±17
Cerebrospinal Meningitis	1± 1	0	1± 1	....
Poliomyelitis	0	1± 1	....	1± 1
Lobar Pneumonia	84± 9	54± 7	30±12	....
Broncho Pneumonia	74± 9	53± 7	21±11	....
Diarrhoea & Enteritis (Under 2)	15± 4	9± 3	6± 5	....
Puerperal Diseases	13± 4	17± 4	....	4± 5
Accident	78± 9	92±10	....	14±13
Suicide	20± 4	14± 4	6± 6	....
Homicide	2± 1	6± 2	....	4± 3
Other Causes	680±26	691±26	....	11±37
Totals	1,530±39	1,493±39	112	75

There are a number of interesting features in the table above. In the first place, deaths caused by diseases of the heart were nearly equal for 1926 and 1925. Note also the remarkable increase in measles deaths. The state has experienced widespread prevalence of this disease this year. In fact, there have been 14,581 cases including May and 166 deaths. This will give slightly more than 1.1 per cent of cases resulting fatally. During the entire year of 1925 there were 37 deaths from measles and so it may be readily seen that the increase in measles deaths for 1926 is not to be considered negligible.

The increases for lobar and broncho pneumonia are also of

significance. During May these diseases should have swung in to their usual seasonal decline but the fact that they did not do so denotes their prevalence and serves as a warning note for the rest of the summer and fall, when the trend will be seasonally upward.

Purely from a statistical point of view there is no decrease of note. However, despite the fact that the decreases for cancer and accident are attended with danger signs, if these decreases should be continued throughout the year the significance will become emphatic in all probability. Reduction in cancer and accidental deaths will come slowly. Possibly the turning point has been reached. Not so, however, with automobile accidents despite the fact that in April there was a decrease of 19 ± 8. May witnesses the monotonous increase again, there being 32 deaths this year against 24 in 1925. This increase of 8 ± 7 has no abstract significance, but if accumulated throughout the year will be significant.

The infant mortality is up somewhat and the marriage rate is the lowest to appear in the past six years.

FOR SIX YEARS—MAY, 1926

CONNECTICUT	1921	1922	1923	1924	1925	1926
BIRTHS *Birth Rate*	2899 24.5	2604 21.6	2669 21.7	2755 22.0	2566 20.1	2356 18.1
DEATHS *Death Rate*	1352 11.4	1457 12.1	1472 12.0	1342 10.7	1493 11.7	1530 11.8
MARRIAGES *Marriage Rate*	907 7.7	898 7.4	920 7.5	931 7.4	862 6.8	845 6.5
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	162 12.0	182 12.5	194 13.2	155 11.5	158 10.6	194 12.7
DEATHS UNDER 1 YEAR *Rate Per 1,000 Births*	200 70.2	191 73.2	169 65.9	175 66.3	186 75.1	192 79.2

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

Births, Marriages and Deaths

May, 1926 Statistics	Population Est. as of July 1, 1926 Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Stillbirths	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,558,996	2356	90	845	1530	11.8	0.8	79.2	192	82	560
Ansonia	19,291	14		9	14	8.7	1.9				2
Branford	7,014	5	1	2	4	6.8		98.3	1		2
Bridgeport	170,717	272	10	84	147	10.3	0.8	98.0	25	4	32
Bristol	25,354	69		16	22	10.4		101.0	5	2	7
Danbury	21,931	45		9	30	16.4	1.6				19
Derby	12,732	30	6	2	24	22.6		85.3	3	2	4
East Hartford	13,950	10		5	5	4.3	0.9				3
Enfield	13,039	23		16	8	7.4		42.6	1	1	4
Fairfield	15,041	11	2	2	10	7.9	2.4	133.3	2	2	3
Glastonbury	6,124	5		3	3	5.9					2
Greenwich	25,790	50	1	64	19	8.8	0.5	105.0	4		5
Groton	11,045	10		9	5	5.4					2
Hamden	10,434	8	1	2	11	12.7		71.8	1		5
Hartford	164,228	371	13	98	195	14.2	0.7	72.9	24	13	59
Killingly	9,218	19		8	7	9.1					5
Manchester	21,505	28	2	15	18	10.0	1.1	26.6	1	1	7
Meriden	36,529	65	1	24	41	13.5	1.9	63.6	4	1	14
Middletown	22,891				48	25.2	1.0	83.0	4	2	17
Milford	14,073										
Naugatuck	16,589	12	1	6	14	10.1		183.2	2	1	6
New Britain	69,482	126	10	42	59	10.2	1.0	123.9	17	3	14
New Haven	181,823	303	8	115	178	11.7	0.7	56.6	18	16	56
New London	29,566	64	1	24	44	17.8	0.8	80.7	5	2	25
Norwalk	29,859	61	8	17	36	14.5	1.6	168.5	9	3	10
Norwich	30,576	47	1	21	42	16.5	0.4	109.1	7	1	12
Plainfield	8,694	8		8	7	9.6					3
Plymouth	6,364	5		2	5	9.4	3.8				4
Putnam	9,105	15	2	9	17	22.4		182.7	3		6
Seymour	8,116	5		1	1	17.7	1.5				
Shelton	11,398	10		3	17	17.8		80.0	1		3
Southington	9,727	22	1	2	11	13.6	1.2	149.1	2		8
Stafford	5,454	16		2	10	22.0	2.2				8
Stamford	47,373	89	7	27	47	11.9	0.3	64.1	6	3	14
Stonington	10,930	5		4	6	6.6		76.4	1		4
Stratford	16,768	12		8	14	10.0	1.4	57.4	1	1	5
Thompson	5,203	8		3	4	9.2					3
Torrington	24,929	34		11	20	9.6	1.9	49.1	2	2	9
Vernon	8,787	18	1	5	6	8.2					4
Wallingford	12,571	7		2	9	8.6				1	7
Waterbury	104,047	187	1	36	84	9.7	1.2	114.1	21	6	17
Watertown	7,359	6		4	3	4.9					1
West Hartford	11,562	11		8	8	8.3		135.5	2		3
West Haven	18,334	28	1	6	22	14.4	0.7	62.8	2	3	6
Westport	5,685	8		2	5	10.6		206.8	1	1	2
Wethersfield	5,141	2		1	2	4.7					
Winchester	9,074	18		3	19	25.1		133.3	2		9
Windham	14,391	25	1	14	15	12.5				3	8
Windsor	6,584	1			5	9.1	1.8	137.6	1		1
Towns under 5,000	212,599	168	10	91	209	11.9	0.8	55.1	14	8	120

for the month of May, 1926

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
220	6	4	1	24	2	11	4	44	107	9	131	1	......	84	74	15	13	78	20	2	548	266
2							1		1					4					1		1	
1															1							
18	1			2				4	11	2	14			11	7			6	6		72	25
......	1					2					5				1				1		6	
5									2		8				1			1	1	1	2	1
2							1				2			3				2			16	12
1															3							
1								1														1
2					1				1													
2																						
1								1	1		1			2	2		1	2			7	1
3																		1				1
4				1							1			1	1							2
32	1		1	2		2	1	3	9	1	15	1		13	10	1		13	2		104	45
......																	1					
3									2		1			3	1	1	1				5	3
3	1	1							5	1	6			1	3		1	1	1		9	4
13								1	3		5			2	5			1			35	27
......																						
4											3					1						
11				1		1		1	5	1	5				5			3	2	1	16	2
19	1	1		2		1		9	7	1	18			15	8	2	2	11	3		79	25
7						1		1	2		8				1	1		2			18	5
6				2				1	3					2	1	2		3	1		9	4
3				1		1			6	1	4			1	2	1		1			25	10
3								1														
1									2													
2											2			1	1		2	2			6	6
......																						
3								1	10					1	1						9	11
5									1							1		1				
3								1						1							2	3
4				1			1	1			5			1	1	1	1	3			16	4
2																						
4					1				1		2							1				1
1				1																		
5						1		3	4		1			1				1			2	
2											1							1			1	1
1														1				1			5	1
3	1	2		1		1		7	4		2			4	8	1	2	4	1		36	11
......														2					1			
2											1				1	1					2	
2				1				1	5	1	1			1				1			7	7
......																		1			1	3
......											1											
2																	1	2			9	3
1				1							2			1	1			1			4	4
1									1		1				1			1				
30				8		1		7	21	1	16			12	8	2	1	11			44	43

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF JUNE, 1926

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of June, 1926, with the corresponding month for the years 1921, 1922, 1923, 1924 and 1925.

DISEASE	Average 1921-1925 for June	Mean 1921-1925 for June	1921	1922	1923	1924	1925	1926
Cerebrospinal Meningitis ..	4	5	9	5	5	2	1	5
Diphtheria	146	136	205	154	136	111	122	53
Encephalitis Epidemic	5	6	4	....	6	7	6	2
Measles	768	556	287	1,437	556	512	1,049	1,612
Poliomyelitis	2	7	7	....	....	2	1	....
Scarlet Fever	218	180	179	159	230	341	180	314
Smallpox	8	8	....	26	3	8	....	2
Typhoid Fever	23	14	39	39	9	12	14	9
Tuberculosis Pulmonary ..	166	136	192	136	137	128	136	149
Whooping Cough	229	237	237	115	252	74	458	165

A comparison of the morbidity on these diseases for the two preceding months, April and May, with the June record is as follows:

	April	May	June
Cerebrospinal Meningitis	5	5	5
Diphtheria	65	83	53
Encephalitis Epidemic	2	4	2
Measles	2,426	2,293	1,612
Poliomyelitis	1	....	....
Scarlet Fever	391	348	314
Smallpox	....	....	2
Typhoid Fever	4	12	9
Tuberculosis (pulmonary)	128	143	149
Whooping Cough	266	216	165

Cases of Other Reportable Diseases

Chickenpox	263	Smallpox	2
Encephalitis Epidemic	2	Tetanus	1
Favus	1	Gonorrhoea	75
German Measles	121	Syphilis	105
Influenza	16		
Mumps	43	Total	630
Septic Sore Throat	1		

Cases of Occupational Diseases

Lead Poisoning	1
Mercurial Poisoning	1
Total	2

Cases of Certain Reportable Diseases

June, 1926	Population Est. as of July 1, 1926	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Broncho-Pneumonia	Other Com. Diseases
State Total	1,558,996	9	1612	314	165	53	5		149	15	136	116	630
NEW HAVEN CO.	467,392	5	397	101	53	12			57	9	32	30	202
New Haven	181,823	3	193	28	28				30	6	12	12	110
Waterbury	104,047	1	4	19	2	1			16	1	2	8	21
Meriden (city and town)	36,529		8	13	2	1			6		11	7	22
Ansonia	19,291				4	9			1		1		2
West Haven	18,334		39	9									2
Naugatuck	16,589												1
Wallingford (town and boro)	12,571												
Milford	14,073		3	11	1						2		2
Derby	12,732												
Hamden	10,434		115	9	12						3	3	20
Branford (town and boro)	7,014		23	3		1				2			5
Seymour	8,116								1				
Towns under 5,000	25,839	1	12	9	4				3		1		17
FAIRFIELD CO.	371,561	1	292	110	32	23	1		31	2	26	8	120
Bridgeport	170,717		23	58	5	11			16	2	17	4	36
Stamford (city and town)	47,373		23	8	3	11			2		2		11
Norwalk	29,859		62	8	15				1				
Danbury (city and town)	21,931		40				1		1		1	1	1
Greenwich (town and boro)	25,790	1	47		3				3		1	1	30
Stratford	16,768		1	5		1			1		1	1	1
Fairfield	15,041		1	4	6				3		2		4
Shelton	11,398												
Westport	5,685		1	21									2
Towns under 5,000	26,999		94	6					4		2	1	35
HARTFORD CO.	393,501	3	428	36	56	12	3		36	4	46	53	187
Hartford	164,228		29	4	12	7	2		20	3	18	33	96
New Britain	69,482		227	13	17	3			4		10	7	37
Bristol (city and town)	25,354		35		20				3		5	6	11
Manchester	21,505			1	1	1				1	3	3	7
Enfield	13,039		6	2								1	1
East Hartford	13,950			1					1		1		
Southington (town and boro)	9,727		26		1				3				1
West Hartford	11,562		18		3				2		3	2	17
Windsor	6,584	3	1	2					1				1
Glastonbury	6,124		7	1					1		1		
Wethersfield	5,141		6	7		1					1		5
Towns under 5,000	46,805		73	5	2		1		1		4	1	11
NEW LONDON CO.	113,554		287	37	10	3	1		13		4	5	31
Norwich (city and town)	30,576			15		1			1				
New London	29,566		3	11					3		1		10
Stonington (town and boro)	10,930		219		9		1					4	5
Groton (town and boro)	11,045		22	5		1					1		10
Towns under 5,000	31,437		43	6	1	1			9		2	1	6
LITCHFIELD CO.	80,282		64	16	2	3			1		3		11
Torrington (town and boro)	24,929			2		2							
Winchester (inc. Winsted)	9,074												1
Plymouth	6,364		5	6									1
Watertown	7,359												1
Towns under 5,000	32,556		59	8	2	1			1		3		8
WINDHAM CO.	55,799		72	7					3		6		13
Windham (inc. Willimantic)	14,391		17	5							2		1
Putnam (city and town)	9,105		1						1				2
Plainfield	8,694		2	1									
Killingly (inc. Danielson)	9,218		24	1							1		1
Thompson	5,203		20								2		2
Towns under 5,000	9,188		8						2		1		7
MIDDLESEX CO.	49,185		51	6	11				7		14	18	50
Middletown (city and town)	22,891		19	1	8				1		6	14	12
Middletown State Hospital									1				5
Towns under 5,000	26,294		32	5	3				5		8	4	33
TOLLAND CO.	27,722		21	1	1				1		5	2	16
Vernon (inc. Rockville)	8,787								1		1		1
Stafford (town and boro)	5,454		1		1						3	1	
Towns under 5,000	13,481		20	1							1	1	15

CAMP GROUND SANITATION

Sanitary Code Reg. 109. No city, town, borough, institution, person, firm or corporation shall operate, maintain, or offer for use, or permit to be used, within the state of Connecticut any tract of land on which persons may camp except after full and literal compliance with the following regulations.

(a) A water supply of sanitary quality shall be provided in ample quantity to meet all requirements of the maximum number of persons using such a tract at any time. Said water supply shall be easily obtainable from its source or from a distributing system within a distance of not more than 300 feet of any camping spot within such tract.

(b) Any water found unsafe for human consumption on such tract of land shall be either eliminated or purified, or shall be kept posted with placards definitely warning persons against its use.

(c) Fly-tight privies or water-flushed toilets with a system of sewage disposal approved by the state department of health shall be provided and shall be maintained in a clean and sanitary condition. Separate toilets for men and women shall be provided, one toilet seat for each 25 men, and one for each 25 women, or fraction thereof, of the maximum number of persons occupying such tract at any time. No camp within such tract shall be at a greater distance than 400 feet from both men's and women's toilet. The location of all toilets shall be plainly indicated by signs.

(d) Supervision and equipment sufficient to prevent littering of the grounds with rubbish, garbage or other refuse shall be provided and maintained. Fly-tight depositories for such material shall be provided and conspicuously located. Every camp on said tract shall be within a distance of not over 200 feet of such depository. These depositories shall not be permitted to become foul smelling or unsightly or breeding places for flies.

(e) The method of final sewage or refuse disposal utilized in connection with the operation of a camp shall be such as to create no nuisance.

(f) The management of every public camp shall assume responsibility for maintaining in good repair all sanitary appliances on said ground and shall promptly prosecute or eject from such ground any person who willfully or maliciously damages such appliances, or any person who in any way fails to comply with these regulations.

(g) Failure to comply with the foregoing regulations shall be deemed sufficient cause for declaring the premises a nuisance under the provisions of the law.

(h) These regulations shall be printed and kept posted in a conspicuous place in any such camp by the management of such ground.

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"For a Clean State and a Healthy People"

Vol. 40 August, 1926 No. 8

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STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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CONNECTICUT
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Vol. 40 August, 1926 No. 8

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STATE DEPARTMENT OF HEALTH

SCARLET FEVER STREPTOCOCCUS ANTITOXIN

The Connecticut State Department of Health takes pleasure in announcing that it has available for distribution through health officers to physicians in the state scarlet fever streptococcus antitoxin for treating scarlet fever cases. Health officers will please urge physicians using the antitoxin to return the postal card inside the package. Scarlet fever antitoxin will be supplied in boxes with a salmon-colored paper cover.

SERUM TREATMENT OF SCARLET FEVER

Mechanism of the Disease

The clinical features of the acute stage of scarlet fever depend on two properties of the Streptococcus scarlatinae. First, the property of elaborating a specific toxin; and second, the property of invading tissue. The manifestations of the first property are the acute intoxication, fever, rapid pulse, leucocytosis, the strawberry tongue, and the scarlet rash. The manifestations of the second are the septic complications.

The duration of the specific toxemia parallels that of the scarlet rash. When the rash has faded, the specific toxemia has been overcome.

The amount of specific toxin in the patient increases each day of the disease until the rash fades; but especially the amount varies with the extent of the septic complications and is frequently extremely high in those cases with an extensive purulent rhinopharyngitis.

The only proved value of the therapeutic serum depends on its content of antitoxin. Prepared by certain methods the serum may contain in addition to the antitoxin, also antibacterial bodies.

Indications for Antitoxin Treatment

All cases of the disease with a bright rash should be treated with antitoxin. In very mild cases seen on the third or fourth day, if the rash is clearly fading, antitoxin treatment may be withheld. In late cases with fading rash, slight benefit may be expected; with faded rash, no benefit may be expected from antitoxin treatment. It follows, therefore, that antitoxin treatment is not indicated in post-scarlatinal complications, when the rash has completely faded.

Results to be Expected

With adequate dosage, the results of antitoxin therapy are striking. Treatment should cause within 12 to 18 hours, a marked subjective improvement, critical fall of temperature and pulse, and fading of rash. If the rash is old, the bright blush should disappear; pigmentation will remain.

Little or no direct effect from antitoxin treatment may be expected on the course of septic complications. These are possibly indirectly benefited by curing the patient of the septic toxemia. After the specific toxemia has been cured, septic complications should receive the appropriate medical or surgical treatment for hemolytic streptococcus infections.

Administration and Dosage

1. The rash indicates the necessity for antitoxin treatment.
2. Extent of sepsis is the guide to the amount of antitoxin needed.

The amount of antitoxin required should be estimated and given in one dose immediately. In all but the most severe cases, the antitoxin may be given intramuscularly into the middle anterior thigh. In extreme cases a few hours may be gained by intravenous treatment.

The smallest or basic therapeutic dose in children or adults should be an amount that will neutralize 600,000 standard skin test doses of toxin.

If the disease is moderately severe or the case is not treated until the fourth day, this dose should be doubled. If there are marked septic complications present, the basic dose should be tripled if treated by the third day; if treated after the third day, quadrupled. In extreme cases in adults, these doses should be increased 50 per cent.

Repeated Dose

If the patient remains sick 12 to 24 hours after treatment and the rash has not begun to fade, antitoxin treatment should be repeated.

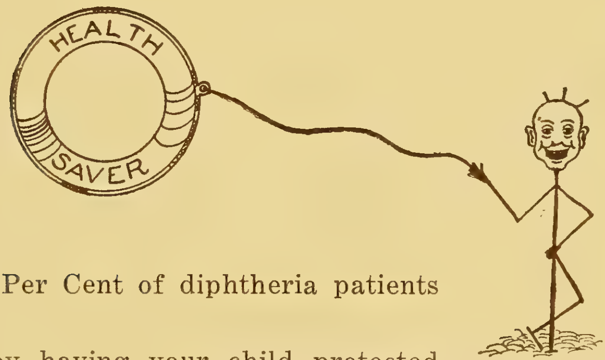
If the patient remains sick after treatment and the rash has completely faded, further antitoxin will be of no benefit.

Prophylaxis

The use of scarlet fever antitoxin for prophylaxis is not advised, except in unusual circumstances; because the immunity is at best of only two or three weeks' duration, because the incidence of infection after exposure is only about 20 per cent, and because where infection is expected the disease can be cured on the first day by antitoxin treatment.

Procuring and Distributing Antitoxin

Rev. 1918, Sec. 2388, (as amended in 1919, Chap. 342.) The state department of health is authorized to procure diphtheria antitoxin, tetanus antitoxin, vaccine lymph or other biologic products for the free use of people of the state upon whom the purchase thereof would impose a financial hardship, and to distribute the same to town, city and borough health officers who shall furnish the same to such persons upon recommendation of attending physicians.



Over Seven Per Cent of diphtheria patients die.

Be happy by having your child protected against diphtheria.

Your physician can do this if you ask him.

CONNECTICUT MORTALITY FIGURES FOR THE FIRST SIX MONTHS
A COMPARISON OF 1926 WITH 1925 AND 1924

	1926		1925			1924		
	Deaths	Death Rate***	Deaths	Factor**	Death Rate***	Deaths	Factor**	Death Rate***
Diseases of the heart	1,557	200.0±3.6	1,358	0.988	177.5±3.4	1,333	0.919	177.7±3.4
Encephalitis	14	1.8± .3	23	0.761	3.0± .4	14	1.466	1.9± .4
Pneumonia Undefined	18	2.3± .4	12	0.667	1.6± .3	39	0.692	5.2± .6
Typhoid fever	10	1.3± .3	18	1.084	2.3± .4	13	1.500	1.7± .3
Measles	183	23.4±1.2	19	1.000	2.4± .4	42	0.535	5.6± .6
Scarlet fever	23	2.9± .4	32	0.703	4.1± .5	49	0.611	6.5± .6
Whooping cough	75	9.6± .8	57	0.972	7.4± .7	42	0.929	5.6± .6
Diphtheria	54	6.9± .6	75	0.846	9.8± .8	95	0.885	12.7± .9
Influenza	476	61.0±2.0	312	0.651	40.7±1.6	199	0.724	26.5±1.3
Tuberculosis, Pulmonary	578	74.1±2.2	561	0.888	73.3±2.2	573	0.919	76.4±2.2
Tuberculosis, Other Forms	89	11.4± .8	83	0.965	10.8± .8	84	1.018	11.2± .9
Cancer	782	100.2±2.5	808	1.030	105.6±2.6	754	1.037	100.5±2.6
Cerebrospinal Meningitis	7	0.9± .2	10	0.950	1.3± .4	9	1.278	1.2± .3
Poliomyelitis	2	0.2± .1	5	2.000	0.6± .3	5	2.304	0.7± .2
Lobar Pneumonia	673	86.3±2.3	537	0.808	70.1±2.1	454	0.745	60.5±2.0
Broncho Pneumonia	517	66.3±2.2	480	0.818	62.7±2.0	516	0.755	68.8±2.1
Diarrhoea and Enteritis Under 2	75	9.6± .8	87	1.628	11.3± .9	95	1.552	12.7± .9
Puerperal Diseases	98	*7.0± .5	76		*5.0± .4	100		*6.2± .4
Accident	473	60.6±2.0	572	1.016	74.7±2.2	525	1.075	70.0±2.2
Suicide	109	14.0± .9	87	1.094	11.4± .9	76	1.000	10.1± .8
Homicide	24	3.1± .4	33	0.865	4.3± .5	28	0.911	3.7± .5
Other causes	4,195	537.8±5.4	4,200	1.170	549.0±5.5	4,034	1.146	537.9±5.4
	10,032		9,445			9,079		

* Per 1,000 living births
** These numbers multiplied into the six months rates give the rates experienced at the end of the year
*** Annual basis, per 100,000 population.

MORTALITY FIGURES FOR THE FIRST SIX MONTHS

By William C. Welling

Before discussing the figures above in detail some remarks must be made as to the various columns. The column giving the number of deaths is of course clear. To find the rates, the number of deaths is doubled and then divided by the population expressed in units of 1,000. This is simple, but assumes that the same force of mortality will maintain throughout the year, an assumption which is not always valid. In order that some idea may be given as to the variation of the two half-years a column of so-called factors has been prepared. A word of explanation about this. When this factor is 1,000 the interpretation to be put upon it is that the same force of mortality holds in the second six months and that the rate as given above for the first six months is to be taken as the final rate at the end of the year. When the factor is less than 1,000 the meaning is that there is a *lessened* mortality in the second six months and that the final rate as figured upon the records of the entire year will be less than the rate for the first six months. When the factor is greater than 1,000 the meaning is that the worst is yet to come and that the mortality of the second six months is greater than in the first. Thus, in 1925 for scarlet fever the factor is 0.7. The six months rate as given (on an annual basis, of course) is 4.1. Multiplying 4.1 by 0.7 gives 2.9 which was the rate for the entire year from scarlet fever. Similarly for other diseases. The factors are given to three places of decimals but for practical purposes it is quite sufficient to use only one place and the death rate for the year can be figured mentally in most cases. The most important fact which it is desired to emphasize is to give an inkling as to the seasonal variation of the diseases or, perhaps better said, the half-year distribution of the various diseases.

Diseases of the Heart

The deaths due to this cause are up, there being an increase in rate of 22.5 ± 5.0 over last year and also about the same increase over 1924. This increase is rather more than to be expected in normal increase. And as the factor is approximately 1,000 in the years 1925 and 1924 it may be assumed that the same force of mortality will obtain in the second half-year and that 1926 will give a rather marked increase in this cause of death.

Encephalitis

The deaths are below those of 1925 and equal to those in 1924. With regard to the half-yearly distribution little can be said. In 1925 the force of mortality spent itself in the first half-year. In 1924 the reverse was true, more deaths being recorded in the second half-year. The decrease of 1926 below 1925 is $1.2 \pm .5$ and is on the border line of significance.

Pneumonia Undefined

The figures given in the factor column show that this disease is plainly a disease of the first six months and as such runs rather uniformly. The disease has increased somewhat over 1925, but not significantly, with indications that the rate at the end of the year will be somewhat higher than in 1925.

Typhoid Fever

This disease is running low so far this year. However, our old friend the factor shows that there is likely to be an increase in the second six months. The decrease below 1925 is $1.0 \pm .5$ in rate and is of possible significance. It is now very probable that the death rate from typhoid fever for the year will be the lowest ever recorded in the state. It is not unlikely, furthermore, that it will be 2.00 per 100,000 or even lower. These are prophesies and as apt to fall wide of the mark as any statistical prognostication. They are made on the figures at hand and the assumption that other things will be equal. Other things are rarely equal.

Measles

If at the end of 1925 an article of prophesy for 1926 had been written who would have said that measles was to increase some 86 per cent over 1925? Nevertheless this very startling increase is precisely what has happened. Measured in terms of rates the increase is 21.0 ± 1.3 deaths per 100,000 population over the rate in 1925. Unfortunately the deft turning out of rates with their chance fluctuations of random sampling will not explain the cause or causes of such increases. This year's experience however will serve to emphasize the fact that when relatively mild diseases become so epidemic as has measles in 1926, with over 16,000 cases, no small mortality must be expected. The morbidity rate, on an annual basis, of the first six months is over 2,000 per 100,000 population. What the

second six months will produce is a puzzling question. In 1925 the disease was equally divided—possibly an unnoticed index of uniform prevalency. In 1924 most of the deaths occurred in the first six months indicating a variation in the prevalence of the disease. This point is discussed more in detail under lobar and broncho pneumonia.

Scarlet Fever and Whooping Cough

There seems to be evidence that the mortality from scarlet fever will be somewhat lower if the second six months' experience is similar to that of 1925 and 1924. For whooping cough an increase of probable significance is indicated.

Diphtheria

Much work is being done in a determined effort to reduce this unnecessary disease. There is no disease which ought to be so effectively eliminated as diphtheria. And from the figures for the first six months of 1926 there is evidence that the year is to give us the lowest death rate from this disease ever recorded. In 1925, 8.4 was the lowest. With a factor of 0.8, which seems fairly stable, to apply to the six months rate of 6.9 for 1926, a rate of, say, 5.5 will result for 1926. This is a rate to strive for even if it is not actually attained. Perhaps even a lower rate may result.

Influenza

Influenza is up. For the last two years most of the mortality has been in the first six months. But it is not far off in the memory of man when the second six months produced most of the mortality! The increase which has already occurred over 1925 is significant when the factors are applied. We must be forewarned that influenza is with us again in increased amount.

Tuberculosis, Pulmonary and Other Forms

This disease in its various forms shows little change. In fact it is characterized by uniform regularity for the three years under discussion. There is apparently a slight tendency for a preponderance of the mortality to occur in the first six months, this statement applying to pulmonary tuberculosis. For other forms of tuberculosis there is but little half-yearly division.

Cancer

In deaths from cancer there is some slight evidence that the mortality is increased in the second six months. Thus in 1925 and 1924 the final mortality rate for the year was 103 per cent

of the mortality rate for the first six months. If this same per cent of increase should hold for 1926 the rate for the year will be about 103 per 100,000 population as compared with 108.5 for 1925. In view of the chance fluctuations of both rates, that for 1926 of 103, and 1925 of 108, the reduction of 5 is not to be considered of noteworthy significance. It seems certain that this rate will rather stubbornly resist reduction. There is no vaccine or toxin-antitoxin to be distributed. State-wide knowledge of the fact that early treatment will in most cases effect a cure is the only way to lower the death rate from cancer. The proverb that it is "Never too late to mend" was not inspired by a study of cancer.

Cerebrospinal Meningitis and Poliomyelitis

There is evidence of a slight reduction in cerebrospinal meningitis. The reduction that may be effected, assuming the same force of mortality in the second six months as obtained in 1925 will result in a reduction of about $.4 \pm .4$. With poliomyelitis the second six months of the year yields such a preponderance of the total annual mortality that it is extremely difficult to say what may happen in the absence of some indication of the reliability of the factors.

Lobar Pneumonia, Broncho Pneumonia

There is a temptation to speculate on the inferences suggested by the factors for these diseases in 1925 and 1924. If this speculation be regarded as an idealization of the conditions it would run something like this: In diseases such as the pneumonias, measles, scarlet fever and so on through the communicable diseases there is a cycle through which the death rate runs each year, say. The death rate, starting at a relatively low level, rapidly rises to a maximum and then more slowly trails away to a minimum. This might be regarded as a normal cycle and would lead to a distinct time grouping of the disease the maximum mortality following shortly after maximum prevalence, the lag being some function of the duration of the disease. Therefore, some change in the prevalence of a disease **may** be **inferred** from its time grouping in, say, the two half-years. It must hastily be added that a rather big change in weather conditions may upset all these inferences with regard to pneumonia. Now to examine the factors for the pneumonias under consideration. In 1924 the interpretation is that for both types there was a distinct grouping in the first six months. In 1925 the factor has increased over 1924 indicating a tendency for the grouping to be broken up—not such a great preponderance occurring in the first six

months. And, with increased mortality also in association with the change in grouping, the inference would be an increased prevalence *tending* to run as such throughout the year with lessened cyclic variation. This would make for higher mortality rates and they have appeared so far in 1926. The change in the factors toward 1,000 would indicate that the second six months is to produce mortality comparable with the first six months. It therefore is necessary to be on guard during the coming autumn.

There are so many unknown elements in problems of this sort and such inferences as above are so likely to fall flat that too much must not be expected from them. However, with the material at hand and the analysis as outlined it would seem wise to sound a warning note.

Diarrhoea and Enteritis Under Two

The deaths from diarrhoea under two have decreased somewhat in the first six months a decrease which is not so impressive as would be a decrease in the second six months when this cause of death is prevalent.

Puerperal Diseases

The rate for this classification is increased somewhat over 1925, and the increase of $2.0 \pm .5$ is significant.

Accident, Suicide, Homicide

So far in 1926 there is an indication that the deaths due to accidents will be reduced with respect to the past two years. This classification will very likely give an increased mortality in the second six months when there is so much more motoring and accidental drownings to swell the total. It has been observed in a survey of accidental deaths due to the automobile that some months have had fewer such deaths than the same months in 1925.

There have already been 109 suicides as compared with 87 in 1925 over the same period and 76 in 1924. The respective increases are 22 and 33. Referred to rates the increases are 2.6 ± 1.3 and 3.9 ± 1.3. No figures are available for a study of the sex distribution and it is difficult if not impossible to account for this apparently significant increase.

The homicides are lower than in the past two years. The irreducible minimum has by no means been reached yet.

DIPHTHERIA ON THE WANE

By Millard Knowlton

Figures compiled recently in the office of the State Department of Health show that for the first six months of 1926, fewer diphtheria cases were reported in Connecticut than for the corresponding months of any recent year. These figures are given in the following table:

Diphtheria Cases Reported for the First Six Months of Each Year, 1915-1926

Year	Cases	Year	Cases
1915	1135	1921	1674
1916	1013	1922	1413
1917	900	1923	1289
1918	1170	1924	1088
1919	1392	1925	1017
1920	1695	1926	760

Comparison of the cases reported for the first half of 1926 with those reported for the previous 10 year period is further made in the following table giving cases by months.

Year	Average number of cases Reported for 10 years	Number of Cases 1926
January	312.6	185
February	234.3	183
March	223.4	190
April	186.7	65
May	169.6	84
June	144.5	53

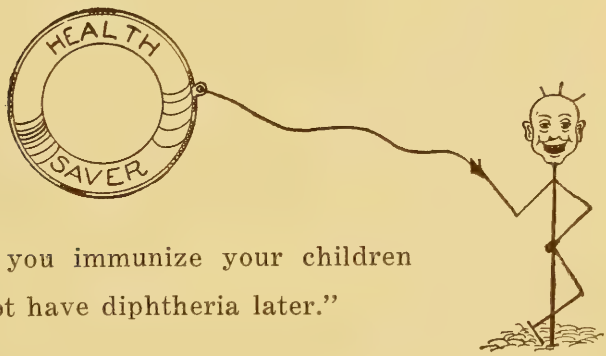
A study of the figures presented in these two tables will indicate that fewer cases of diphtheria are being reported now than formerly, that the first half of each year since 1921 has showed fewer cases than the same period of the preceding year and that fewer cases were reported for each month so far of the present year than the average number reported for the corresponding month during the preceding 10 year period.

It is natural to think of the lessened number of diphtheria cases reported in connection with the increasing attention to immunizing children by means of toxin-antitoxin. Since 1920 this has been done to an increasing extent in Connecticut. For certain communities in Connecticut and other states where a systematic immunization program has been carried out, the results are very marked. The conclusion appears justified therefore that the constant decline in number of cases from

the State as a whole during the past few years is due in considerable measure to immunization procedures carried out in certain communities.

Armed with a method of immunization against diphtheria known to be effective, the problem of still further reducing the number of cases is merely a question of more extensive application of the immunizing method. Any community can lessen the number of diphtheria cases within its borders by immunizing its children. The assembling of children in school affords an opportunity for the health officer and school authorities to conduct a campaign to protect the children against diphtheria. Such a campaign results not only in protecting school children who are immunized but also in protecting the younger children at home from the disease contracted in school by older children. One of the most important results of such a campaign is the education of the public in regard to the possibilities and value of the immunizing procedure.

Now is the time for a diphtheria immunization campaign for next fall as the diphtheria "season" is just about to begin. The State Department of Health will furnish the local health officer toxin-antitoxin for use in such a campaign. The Department will also furnish printed material and speakers to assist in the publicity required to put over such a program. Local communities are expected to provide the medical and nursing service necessary to reap the harvest from the publicity campaign. Many communities have already immunized their children against diphtheria. The future prevalence of this disease in Connecticut depends on how many other communities take active measures to protect their children.



Joy says "If you immunize your children now they will not have diphtheria later."

NEWS NOTES FROM THE FIELD

Appointments:

Hartford County Health Officer has appointed Winthrop D. Scudder, M. D., of East Hartford, health officer of East Hartford and South Windsor to take the place of the late Dr. F. H. Mayberry.

The Conference of State Sanitary Engineers has appointed Warren J. Scott, S. B., Director of the Bureau of Sanitary Engineering, chairman of the Committee on Shellfish of that organization. This committee will study the work being carried on in the various states and by the U. S. Public Health Service. Other members of the committee are J. E. Bacon, New Jersey; Stephen de M. Gage, Rhode Island; T. C. Schaetzle, Maryland; and R. E. Tarbett, U. S. Public Health Service.

Coming Events:

The SECOND CLINICAL CONGRESS of the Connecticut State Medical Society will be held September 21, 22 and 23 at New Haven.

The final program just received offers a wide and significant list of subjects to be considered. Among other national and well known leaders scheduled for papers, appears the name of Professor Edouard A. Rist, Co-Director of the Laennec Hospital and Dispensary for Tuberculosis, Paris, France. Professor Rist will discuss "Tuberculosis and Pregnancy" at the 7:30 p. m. session, Wednesday, September 22nd.

An enrollment of five hundred is expected at this Congress and an early registration is urged. Address Dr. Creighton Barker, 129 Whitney Avenue, New Haven, concerning this.

The fourth NEW ENGLAND HEALTH INSTITUTE will be held at Concord, New Hampshire, September 27th to October 1st. This Institute originally planned for May 24-28, was postponed on account of The American Health Congress which was held at Atlantic City during the same month.

The program for the Institute is now in the making, and, as usual, will present names of national repute. Those who have had as yet no vacation will do well to make their way New Hampshireward at about this time and so combine business with pleasure. Save the dates **September 27, 28, 29, 30, October 1.**

The 1926 SEASON OF FAIRS is approaching. The big health tent will soon shake out its sides preparatory to again taking the road. As usual it will visit all parts of the state with its health exhibit. This is a preliminary invitation to visit the big show when it comes to town.

Laboratories

SUMMARY OF BUREAU ACTIVITIES FOR JULY, 1926

DIAGNOSTIC

	+	—	?	Unclassified	Total	
Typhoid	4	74	1	....	79	
Paratyphoid A	1	78	....	....	79	
Paratyphoid B	....	78	1	....	79	
Diphtheria	35	381	....	....	416	
Diphtheria Virulence	10	16	....	....	26	
Vincent's Angina	3	224	....	....	227	
Haemolytic Streptococci	8	219	....	....	227	
Tuberculosis	35	81	....	....	116	
Syphilis	249	1,766	236	....	2,251	
Gonorrhoea	39	71	....	....	110	
Malaria	....	4	....	....	4	
Rabies	7	12	....	....	19	
Glanders	1	3	....	....	4	
Special Specimens	3	17	....	....	20	3,657

CHEMICAL AND BACTERIOLOGICAL

Milk samples	398	
Water samples	129	
Sea water samples	282	
Oyster samples	90	899
Total examinations made		4,556

LABORATORY WORK CONTINUES TO GROW

In the Laboratories more specimens were examined during the month of July, 1926, than for any preceding month of July in twenty years since the Laboratories were established. This month showed a gain of one-fifth the total number of specimens over the corresponding month of July, 1925. Comparison of the total number of specimens examined by years for five years is very interesting: 1922—2167; 1923—2714; 1924—3124; 1925—3747; 1926—4556. A very large gain in the number of blood samples for syphilis examination and in the number of sea-food samples examined accounts for most of the increase over last year.

One specimen of horse blood was found positive for glanders. This disease was formerly very frequent among horses in this state but this is the first specimen examined in the Laboratories for several years that has been positive for this disease. The seven specimens reported for rabies include six heads of dogs and one head of a lamb. This is the first time the Laboratories have been called upon for several years to examine the head of a lamb or sheep for rabies.

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF JULY, 1926

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of July, 1926, with the corresponding month for the years 1921, 1922, 1923, 1924 and 1925.

DISEASE	Average 1921-1925 for July	Mean 1921-1925 for July	1921	1922	1923	1924	1925	1926
Cerebrospinal Meningitis ..	7	6	11	6	9	5	2	2
Diphtheria	120	127	149	111	127	132	80	47
Encephalitis Epidemic	4	4	5	3	7	3	4	2
Measles	305	261	147	502	258	261	358	394
Poliomyelitis	9	9	13	1	9	15	8	1
Scarlet Fever	108	115	146	80	115	123	75	121
Smallpox	8	......	......	11	......	27	......	......
Typhoid Fever	37	28	53	63	28	24	17	22
Tuberculosis Pulmonary	137	142	157	143	133	142	111	129
Whooping Cough	267	225	225	201	289	212	410	146

A comparison of the morbidity on these diseases for the two preceding months, May and June with the July record is as follows:

	May	June	July
Cerebrospinal Meningitis	5	5	2
Diphtheria	83	53	47
Encephalitis Epidemic	4	2	2
Measles	2,293	1,612	394
Poliomyelitis	......	......	1
Scarlet Fever	348	314	121
Smallpox	......	2	......
Typhoid Fever	12	9	22
Tuberculosis (pulmonary)	143	149	129
Whooping Cough	216	165	146

Cases of Other Reportable Diseases

Chickenpox	126	Para-typhoid Fever	1
Conjunctivitis Infectious	2	Septic Sore Throat	2
Dysentery Bacillary	2	Tetanus	5
Encephalitis Epidemic	2	Gonorrhoea	76
German Measles	32	Syphilis	78
Influenza	2	Total	344
Malaria	4		
Mumps	12		

Cases of Occupational Diseases

Dermatitis Occupational	1
Dermatitis Venenata	1
Total	2

Cases of Certain Reportable Diseases

July, 1926	Population Est. as of July 1, 1926	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Broncho-Pneumonia	Other Com. Diseases
State Total	**1,558,996**	**22**	**394**	**121**	**146**	**47**	**2**	**1**	**129**	**10**	**55**	**59**	**344**
NEW HAVEN CO.	467,392	4	70	35	14	16		1	39	2	16	9	110
New Haven	181,823	1	40	7	11	2			18	1	4		55
Waterbury	104,047	1	2	9		3		1	10	1	4	4	20
Meriden (city and town)	36,529	1	4	3		2			2		4	4	11
Ansonia	19,291		1			1							
West Haven	18,334		6	3	1	7			2			1	
Naugatuck	16,589												
Wallingford (town and boro)	12,571	1							1				1
Milford	14,073		2	4					4				4
Derby	12,732												
Hamden	10,434		4	6	1	1					1		11
Branford (town and boro)	7,014		4										2
Seymour	8,116												
Towns under 5,000	25,839		7	3	1				2		3		6
FAIRFIELD CO.	371,561	4	52	26	43	17	1		20	1	9	8	52
Bridgeport	170,717	2	5	16	5	7			12	1	6	5	27
Stamford (city and town)	47,373		1		8	4	1		1		1		5
Norwalk	29,859	1		1									
Danbury (city and town)	21,931		11	1		1					1	1	1
Greenwich (town and boro)	25,790		16		5	1			2				3
Stratford	16,768					2							1
Fairfield	15,041	1	1	4	4	1							
Shelton	11,398												
Westport	5,685												
Towns under 5,000	26,999		18	4	21	1			5		1	2	15
HARTFORD CO.	393,501	10	123	26	66	6			38	7	15	29	106
Hartford	164,228	2	13	15	36	2			17	4	11	14	64
New Britain	69,482		52	7	17				11	1	3	5	12
Bristol (city and town)	25,354		22		2				1	1		1	7
Manchester	21,505			1	4	1						1	8
Enfield	13,039	1	1		1				2				3
East Hartford	13,950										1		3
Southington (town and boro)	9,727		2		3				3				2
West Hartford	11,562		4		3				1			1	1
Windsor	6,584		2	2									
Glastonbury	6,124									1			
Wethersfield	5,141		1			2							
Towns under 5,000	46,805	7	26	1		1			3			7	6
NEW LONDON CO.	113,554	1	46	20	2	1			23		4	3	18
Norwich (city and town)	30,576			6					2				
New London	29,566		4	10	2	1			8		1		4
Stonington (town and boro)	10,930		22						1				2
Groton (town and boro)	11,045		11	4							2	2	8
Towns under 5,000	31,437	1	9						12		1	1	4
LITCHFIELD CO.	80,282		23	8	5	4			1		2	1	19
Torrington (town and boro)	24,929					1					1		
Winchester (inc. Winsted)	9,074		11	2	1	1							
Plymouth	6,364			4		2			1				
Watertown	7,359		1	2	1						1	1	8
Towns under 5,000	32,556		11		3								11
WINDHAM CO.	55,799	3	28	2	6	1			2		1	2	15
Windham (inc. Willimantic)	14,391			1								1	
Putnam (city and town)	9,105	1	2								1		4
Plainfield	8,694	1	1			1			1				
Thompson	5,203		6						1				1
Killingly (inc. Danielson)	9,218		4	1								1	8
Towns under 5,000	9,188	1	15		6								2
MIDDLESEX CO.	49,185		42	3	5	2	1		3		7	7	23
Middletown (city and town)	22,891		2								6	7	3
Middletown State Hospital									2				1
Towns under 5,000	26,294		40	3	5	2	1		1		1		19
TOLLAND CO.	27,722		10	1	5				3		1		1
Vernon (inc. Rockville)	8,787								3				1
Stafford (town and boro)	5,454				5						1		
Towns under 5,000	13,481		10	1									

Vital Statistics

MONTH OF JUNE

TOTALS TO DATE, FIRST SIX MONTHS, 1926, 1925, 1924

	Births	Birth Rate*	Marriages	Mar. Rate*	Deaths	Death Rate*
1926	14,200	18.2±.1	5,455	7.0±0.07	10,032	12.9±.1
1925	15,075	19.9±.1	5,805	7.6±0.08	9,445	12.3±.1
1924	15,956	21.2±.1	6,174	8.2±0.10	9,079	12.1±.1

*Rates on annual basis per 1,000 population

The figures above exhibit the first six months of the year. Elsewhere in this bulletin will be found a more detailed analysis of the deaths as to cause, giving rates, and in comparison with 1925 and 1924.

The total figures for births show a marked falling-off, the birth rate for 1926 being 1.7±.1 below 1925 and 3.0±.1 below 1924. The statistics show that this decrease is far from a normal phenomenon.

The marriages are also falling off in a way that cannot be explained as a fluctuation of random sampling; for 1926 is .6 ±.1 below 1925 and 1.2±.1 below 1924 with respect to rate. These decreases are not so intense as the decreases for births but they are of significance.

The total death figures show a decided increase. In numbers the increase of 1926 over 1925 is 587. The increase in rate is 0.6 ±.1. An attempt will be made in another article to show where some of the increases lie.

Births

The births decreased again. The total reported this year was 2,214 as compared with 2,571 for 1925. This is a decrease of 357. As a fluctuation of some 50 might have been expected to arise from pure chance it is apparent that this deviation of 357 is far from a normal incident.

The average number of births over the past six years is 2,540±70 with a standard deviation for the series of 166±47. The scatter of 166 is large.

Of the towns over 5,000 in population only 14 reported more births in 1926 than in 1925 and of these one, Hartford, reported an increase of more than 10. In Hartford the increase was 13±25 showing that the 13 is of no significance.

Stillbirths

Records of 91 stillbirths were received as compared with 101 a year ago. The rate of stillbirths among 1,000 total births for 1926 was 39.3±3.9 as compared with 37.8±3.8 in 1925. The difference in these rates is of no importance.

With regard to the sex of stillbirths which has been traced during the year, there were 53 stillbirths of males during June and 38 females. This gives a sex ratio of 139 males to 100 females. In probabilities, the chance of a stillbirth being a male is 582±80 among 1,000 stillbirths, and 418±68 is the chance number of females among 1,000 stillbirths. The difference in these probabilities is 164±105.

So far this year there have been 538 stillbirths, including June. Of these 305 were males and 233 females. From this total there will be a probable sex distribution of 567±34 males in 1,000 stillbirths and 433±29. These figures give a difference of 134±45. This difference is nearly 3 times its standard deviation and is significant. As told in the last bulletin, it became significant at that time.

Deaths

It is a relief to note a decrease in the number of deaths after a number of months of increase over last year. The decrease is only 66, to be sure, in the face of an expected chance increase or decrease of 36 and of no great value as a statistical fact. Nevertheless it is a decrease, and if we are to experience another year of continued low death rate there will have to be other and more generous decreases. This will be rather difficult to accomplish owing to the generally favorable rates in the second six months each year.

The mean number of deaths for the last six years is 1,286±30 and the standard deviation of the series, measuring the scatter or variation about the mean, is 71.5±20.0. The scattering of this series might be considered as rather large. As a matter of fact it is caused by two years, 1922 and 1925, which depart by over 100 from the mean, the one below the mean and the other above, contributing roughly 80 per cent of the scatter. This illustrates the effect one or two wide variations may have upon a series.

If we turn to rates we will discover a more stable condition. The mean rate over six years is 10.4±.2 with a standard deviation of .04±.1. The effect here is not so apparent but the years 1922 and 1925 again, make up 80 per cent of the scatter.

A comparison of 1926 and 1925 will now be made for certain diseases.

Cause of Death	1926	1925	Increase	Decrease
Diseases of Heart	248±16	212±15	36±21	....
Epidemic Encephalitis	0	8± 3	....	8± 3
Pneumonia Undefined........	1± 1	3± 2	....	2± 2
Typhoid Fever	1± 1	1± 1	....	....
Measles	9± 3	6± 2	3± 4	....
Scarlet Fever	1± 1	2± 1	....	1± 2
Whooping Cough	6± 2	10± 3	....	4± 4
Diphtheria	2± 1	8± 3	....	6± 3
Influenza	18± 4	15± 4	3± 6	....
Tuberculosis Pulmonary	96±10	95±10	1±14	....
Tuberculosis, Other Forms	15± 4	13± 4	2± 5	....
Cancer	124±11	130±11	....	6±16
Cerebrospinal Meningitis ..	1± 1	2± 1	....	1± 2
Poliomyelitis	0	1± 1	....	1± 1
Lobar Pneumonia	41± 6	34± 6	7± 9	....
Broncho Pneumonia	37± 6	35± 6	2± 9	....
Diarrhoea and Enteritis (Under 2)	4± 2	21± 5	....	17± 5
Puerperal Diseases	15± 4	15± 4	....	....
Accident	85± 9	144±12	....	59±15
Suicide	18± 4	19± 4	....	1± 6
Homicide	6± 2	4± 2	2± 3	....
Other Causes	597±24	613±25	....	16±35
Totals	1,325±36	1,391±37	56	122

These figures are a pleasure to discuss. There is no increase of moment to note, as they are all insignificant when interpreted by their standard deviations. There are just three causes of death the increase of which is somewhat annoying. These three causes of death are lobar and broncho pneumonia and influenza. Note that their standard deviations are so large with respect to the actual increase that the temptation might be to neglect them. However, it is not so long ago that influenza, together with the pneumonias, left its mark on the entire country. Looking back now the figures show that for a year or two before the great epidemic there was more pneumonia than usual. Influenza and pneumonia is again lingering longer than usual and while the mathematics of the situation may say the situation is secure the fact of an *increase* where a *decrease* is to be expected must not be discounted too readily. We must be very cautious with influenza and, noting its presence in the summer months, make ready to guard against its reappearance in the fall.

There are three decreases which are worthy of special mention. The decrease in epidemic encephalitis was such as to wipe out entirely all deaths and also of such a magnitude as to be significant. A very encouraging and significant decrease was noted in diarrhoea and enteritis under 2. The most significant decrease from a statistical point of view was effected in accidental deaths. Here the decrease is practically four times the expected chance variation. Some of this decrease was due to a lessened number of automobile deaths, there be-

ing 25 this year as compared with 34 a year ago. This is a decrease of 9±8.

As is to be expected in June the marriages increased over the average month but the marriage rate for 1926 is the lowest to appear in the last six years.

FOR SIX YEARS—JUNE, 1926

CONNECTICUT	1921	1922	1923	1924	1925	1926
BIRTHS *Birth Rate*	2747 23.2	2492 20.7	2564 20.9	2655 21.2	2571 20.2	2214 17.0
MARRIAGES *Marriage Rate*	1911 16.1	1691 14.0	2061 16.8	1950 15.6	1867 14.6	1789 13.8
DEATHS *Death Rate*	1216 10.3	1175 9.7	1314 10.7	1298 10.4	1391 10.9	1325 10.2
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	156 12.8	150 12.7	144 11.0	150 11.6	140 10.0	134 10.1
DEATHS UNDER 1 YEAR *Rate Per 1,000 Births*	162 57.0	153 59.1	187 73.1	162 61.2	132 53.2	150 62.1

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

Births, Marriages and Deaths

June, 1926 Statistics	Population Est. as of July 1, 1926 Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Stillbirths	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,558,996	2214	91	1789	1325	10.2	0.7	62.1	150	43	473
Ansonia	19,291	17	....	22	16	9.9	0.6	41.9	1	....	7
Branford	7,014	3	2	7	2	3.4	1.7	....	....	....	....
Bridgeport	170,717	241	7	162	119	8.4	0.8	39.2	10	4	38
Bristol	25,354	48	1	34	12	5.7	0.5	20.2	1	....	4
Danbury	21,931	39	1	34	40	21.9	1.1	....	....	1	17
Derby	12,732	32	2	14	7	6.6	....	....	....	....	1
East Hartford	13,950	17	1	9	10	8.6	1.7	81.1	1	1	3
Enfield	13,039	21	....	12	8	7.4	....	42.6	1	1	5
Fairfield	15,041	12	....	8	11	8.8	1.6	....	....	1	4
Glastonbury	6,124	10	....	5	2	3.9	....	....	....	....	2
Greenwich	25,790	28	1	76	14	6.5	....	26.2	1	1	5
Groton	11,045	13	1	11	8	8.7	....	110.0	1	1	3
Hamden	10,434	18	....	13	8	9.2	1.2	71.4	1	....	3
Hartford	164,228	327	12	175	145	10.6	0.7	78.9	26	3	45
Killingly	9,218	15	....	16	5	6.5	....	76.9	1	....	3
Manchester	21,505	28	2	17	10	5.6	1.1	53.1	2	....	3
Meriden	36,529	61	....	50	35	11.5	0.7	63.6	4	....	13
Middletown	22,891	30	4	20	40	20.9	....	61.8	3	1	17
Milford	14,073	....	....	....	....	....	....	....	....	....	....
Naugatuck	16,589	11	2	11	5	3.6	....	183.2	2	....	....
New Britain	69,482	127	6	86	46	7.9	0.7	65.6	9	2	6
New Haven	181,823	307	11	258	162	10.7	0.9	59.6	19	7	46
New London	29,566	56	3	54	34	13,8	0.4	129.2	8	....	18
Norwalk	29,859	42	2	53	33	13.3	0.4	74.5	4	2	14
Norwich	30,576	64	2	44	42	16.5	0.8	77.9	5	1	14
Plainfield	8,694	7	1	6	4	5.5	....	....	....	....	1
Plymouth	6,364	7	1	3	1	1.9	....	....	....	1	....
Putnam	9,105	12	....	14	13	17.1	1.3	121.8	2	....	6
Seymour	8,116	2	....	6	6	8.9	....	240.0	2	....	3
Shelton	11,398	11	....	8	14	14.7	3.2	80.0	1	1	1
Southington	9,727	9	....	8	7	8.6	3.7	74.0	1	....	4
Stafford	5,454	20	3	8	10	22.0	....	67.0	1	....	7
Stamford	47,373	82	3	66	41	10.4	0.3	53.3	5	1	11
Stonington	10,930	12	....	10	6	1.1	1.1	75.9	1	3	....
Stratford	16,768	14	1	12	9	6.4	1.4	....	....	....	6
Thompson	5,203	2	....	6	1	2.3	....	137.9	1	....	....
Torrington	24,929	25	4	28	13	6.3	....	98.2	4	....	3
Vernon	8,787	7	1	11	6	8.1	....	....	....	....	5
Wallingford	12,571	8	1	17	11	10.5	1.9	....	....	1	5
Waterbury	104,047	165	6	105	108	12.5	1.2	70.6	12	3	31
Watertown	7,359	6	1	7	1	1.6	....	....	....	....	....
West Hartford	11,562	15	1	17	14	14.5	....	203.4	3	....	6
West Haven	18,334	33	....	23	21	13.7	0.7	....	....	1	9
Westport	5,685	5	....	11	8	16.8	....	203.3	1	1	2
Wethersfield	5,141	2	....	6	4	9.3	....	307.6	1	....	2
Winchester	9,074	11	....	9	10	13.2	1.3	66.6	1	1	3
Windham	14,391	24	....	23	12	10.0	....	....	....	....	3
Windsor	6,584	2	....	3	2	3.6	1.8	....	....	....	1
Towns under 5,000	212,599	166	8	191	189	10.6	0.5	55.1	14	4	93

for the month of June, 1926

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
248		1	1	9	1	6	2	18	96	15	124	1		41	37	4	15	85	18	6	483	233
4							2		1		1											1
																			1		1	
28					1			3	8	1	11			4	3		2	5	3	2	52	12
								1			4							1			3	2
9									2	1	2			1			2	4		1	18	10
2											1			1				1			5	4
2									1						1			3				
2				1																		
3						1			2		2			1								
											1											
				1							3						1				7	4
				1							2						1				1	
1									1		4					1			1			
27						1		2	4	2	18	1		6	5	1	1	12		2	82	32
3																			1			
2									1		1										3	2
4								1	2		3				1			4			11	1
10									3		1			2	2			3			30	27
														1								
7				1					3		3			2	2		1	6	2		14	5
27						1		4	5	4	11			7	9		4	10	3		78	16
7									1		5					1					11	5
4										2	3			4				2	1		8	3
6				1				1	8	2	5			2	1		1	1			18	12
1											1											
														1								
2									1		1							3	1		5	3
1																						
1						1			10		1										9	8
1									2		1											
1											1										3	2
4		1							1		5			2	3			6	2		20	9
1				2		2			1													
1									1		2											1
																				1		
1											2			1							6	
1											2										1	
1									1					1				1	1		2	
24			1					2	9	2	6			1	3	1	1	6	1		36	12
								1														
4														1	3						6	1
3								1	5		3										4	4
1				1																	3	4
2																					1	
1				1							3										5	3
3								1		1	1							1			2	1
									1													
46								1	22		14			3	4		1	16	1		38	49

DIPHTHERIA COMES EVERY AUTUMN

Health Congress Endorses Immunization

The following resolution was among those presented by Prof. C.-E. A. Winslow for the Resolutions Committee of the American Health Congress at the Fourth General Session of the Congress, held at Atlantic City, May 21st:

WHEREAS, Ten thousand lives are sacrificed needlessly from diphtheria in the United States each year, 90 per cent of which deaths occur in children under five years of age, and

WHEREAS, Science has now given to us a means whereby complete protection against this disease may be secured by the administration of toxin-antitoxin, with the result that the vast majority of people so immunized would never contract diphtheria, even though exposed to it, and

WHEREAS, Ten years of experience have proven the entire practicability of eliminating diphtheria from a community from widespread immunization of school children, and more particularly of children from one to five years of age; therefore, be it

Resolved, That the health workers of the nation, assembled in the American Health Congress, with the best interest of the children of America at heart, strongly urge upon the attention of the people of the United States the opportunity thus afforded them to banishing diphtheria as a menace to their children; and be it

Resolved, That this Congress urge upon the fathers and mothers of the land that they seek this protection for their young children, either from their family physician or by taking advantage of the immunization service afforded by boards of health, clinics, health centers, and boards of education, to the end that diphtheria may be eliminated from the United States.

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"For a Clean State and a Healthy People"

Vol. 40 September, 1926 No. 9

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STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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CONNECTICUT

HEALTH BULLETIN

Vol. 40 September, 1926 No. 9

Issued Monthly by the

STATE DEPARTMENT OF HEALTH

ROADSIDE WATER SUPPLIES

By Warren J. Scott

Roadside water supplies have for the past two or three years been receiving considerable attention from state health authorities in the country. The tremendous growth of our automobile population has increased greatly the patronage of the roadside water supply. The danger of contamination of such supplies by improper sewage disposal on the part of picnickers or campers has also become more pronounced.

In Connecticut, the number of roadside supplies is not so great as in many of our less thickly populated states. Public water supplies under supervision are available in practically all of our communities of fair size, and few long stretches of highway exist without interspersion of public supplies. The use of these supplies is recommended, where possible. There are, however, a considerable number of roadside supplies, many of which are patronized by the traveling public.

Drinking water along the roadside is secured from wells, springs and running streams. In some cases, a small pipe projecting out of an earth bank beside the road or extending above a watering trough discharges an inviting stream which is frequently used for drinking by the passing traveler without any thought as to the source of the supply.

Classification and Numbering

The State Department of Health has for the past two years collected a number of samples for analysis from roadside supplies. These subsequently have been posted with canvas signs, advising that the water was "Safe" or "Unsafe" for drinking purposes. This year the Department with the cooperation of the State Highway Department has undertaken a comprehensive campaign looking toward the permanent improvement of Connecticut's roadside water supplies. The

classification of these supplies may be grouped as follows: (1) those where the source and point of availability are both on property of the state, (2) those where the source is on private property but water is piped to a point of availability on state property on the highway, (3) those where the source and point of availability are both on private property.

The first problem was to locate the supplies generally used by the traveling public. This was easily solved by the hearty cooperation of the State Highway Department. The sanitary inspector from the Bureau of Sanitary Engineering communicated with the highway supervisors in the various districts and was advised by them as to the locations in the districts. Many of the supplies were also patronized by employees of the State Highway Department so that the Highwa Department had an added interest in desiring to protect the health of their employees.

According to the program laid out, the inspector visits each supply, collects a sample and ascertains the source if it is not readily apparent, as in the case of some piped supplies. He also carries a brush and a can of paint with which he marks on or near the supply the number of the sample. The state highways are numbered and sample 128-1 means sample No. 1 in the direction of travel on route 128. An inspection form is filled in by the inspector on which are recorded recommendations or comments as to the construction and location of the supply.

Figure 1. A Safe Roadside Water Supply.

Field Survey and Analysis Necessary

After the results of the chemical and bacteriological analyses are secured, each supply is classified as to inspectional findings and analytical results. It is, of course, obvious that a supply might be of such construction that it is exposed to marked opportunity for chance contamination and yet at the particular time when the sample was collected, the analysis might not indicate pollution. Similarly, an inspection might not show any apparent source of pollution, whereas analysis might indicate contamination of the water, possibly from distant sources. In other words, both the inspection and analysis must be considered in classifying a supply.

Running streams are not inspected, as it is considered that running streams, even from uncontaminated drainage areas, are exposed to the danger of chance contamination. Occasionally pipes by the roadside are discovered which are supplied by running streams some little distance away. These are classed as "Unsafe."

Elimination of Unsafe Supplies

In all cases where "Unsafe" or questionable supplies are found, which are available on the state highway, the Highway Department is advised that the supply should either be "fixed up" by necessary constructional changes or made unavailable. The latter course is generally considered preferable to posting "Unsafe" signs and can usually be accomplished by re-

Figure 2. Poorly Protected Roadside Spring.

moving a pipe or by other means. Where such supplies are found which come under class (2) listed above, the property owner is advised that the supply must be placed in proper condition, if this is possible, or it will be made unavailable on the state highway or posted "Unsafe." Many property owners have evinced a desire to carry out changes to improve their supplies so as to permit of "Safe" posting. After any changes are made, a supply is again sampled. The inspector has frequently left postcards with persons who state they will make certain changes, with instructions to mail the cards to the office when improvements have been made and another analysis is desired.

The distinctly private supplies which are not directly on the state highway and come under class (3) are referred to the local Health Officers in case dangerous conditions are disclosed by inspection or analysis.

Method of Posting

The supplies to be posted are handled in the following manner. The State Highway Department has made an attractive wooden sign painted with black letters on a white background, with the legend "Drinking Water." On the right-hand lower corner is the inscription "State Dept. of Health," and on the left-hand lower corner is blocked out a 4 inch square, onto which is tacked a card furnished by the State Department of Health. The 1926 card is of blue, heavy cardboard on which is printed, "This water was analyzed on .... 192........, and found safe for drinking purposes." The date is filled in with black India ink and the number of the sample is marked on the bottom of the card. On the back of the card is written the location and this card is turned over by the State Highway Department to their sign painter with instructions to post the sign.

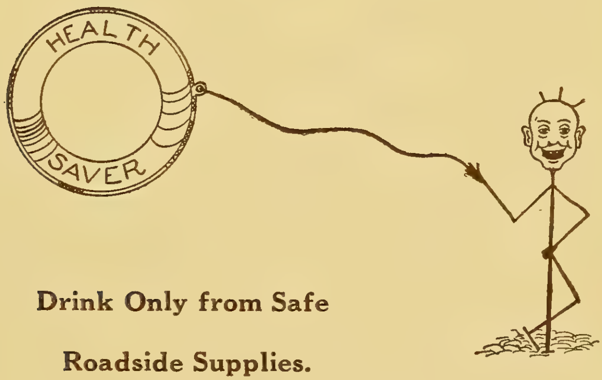
Unsafe supplies will be posted "Unsafe Water", but it is hoped that it will be possible to definitely remove unsafe supplies from the state highways rather than resort to the necessity of posting.

The cardboard sign which is fastened to the large wooden sign was purposely chosen of a material which weather tests showed would stand up for a season but would not be permanent. This was with the idea that all such supplies posted should be analyzed at least once each year or dangerous conditions might later occur near or in a supply which is posted as "Safe". Changing colors for the cardboard sign will be employed each year, so that a glance at any sign by any of the health or highway department employees would discover the neglect to examine any supply.

Figure 1 shows a pipe discharging above a watering trough from a source which inspection showed to be safe and analysis confirmed this conclusion. The numbers on the watering trough indicate the route and number of the sample. The old canvas sign on the left was removed after the wooden sign was erected. Figure 2 portrays a roadside spring poorly protected against contamination, which should either be properly constructed or made unavailable.

Results to be Accomplished

To remove dangerous roadside water supplies will remove a real health hazard. The posting of "Safe" supplies should not only afford a great convenience to the traveling public but should be of educational value in calling attention to the advisability of giving consideration to the quality of drinking water. It is felt that the work begun this year in cooperation with the State Highway Department will lead rapidly to the entire elimination of dangerous roadside supplies from the state's highways as well as the establishment of a demand on the public's part for drinking water from a safe source.



Drink Only from Safe

Roadside Supplies.

NATURE'S COSMETICS*

By Elizabeth C. Nickerson

A "coat of tan" seems to be the latest style in natural coloring at this season of the year. Like all latest styles those who have not yet acquired it are envious of the ones who have brought back from the holidays this successful mark of their vacation. By contrast, too, those who have not yet left dull care behind, and turned their faces seaward, or lakeward, or mountainward, are wearing a pale expression. This coat of tan is one of nature's cosmetics, that new brand of beautifiers which has been increasing in favor during the last few years.

Nature's cosmetics are not as widely known, as yet, as some other brands found on milady's dressing table. Perhaps this is because they have not yet received such wide publicity. They are not new—people of discriminating tastes have used them for years with successful effects. Once used, such people are glad to recommend nature's cosmetics to others who are anxious to secure those sparkling eyes, that warm glowing color, that smooth skin, that springing elastic step, that "aliveness" which no other brand of cosmetics can give.

Exposure to the Sun

But let us return to that coat of tan and see what applications are necessary to secure it. Exposure to the sun is the surest method of securing it, but, like other cosmetics, there are certain precautions to be observed. In the first place it is not desirable to secure this too quickly, the applications of sunlight should be given gradually. Especially is this true for a tender skin, one which has been too long protected from sunlight, such as spending the winter months indoors, riding in autos with windows closed, or taking no form of exercise out of doors. Even the skin of one who has spent much time out in the open may meet with disastrous results if sunlight is applied too freely and for too long a period to exposed parts of neck, arms and legs. At those first games of tennis, golf, baseball, rowing, swimming or other exercise, such parts should be exposed gradually in order to produce that even coat of tan so greatly to be desired. If sunlight is applied too quickly or too generously it is apt to produce a scarlet effect (not mentioned in the catalogue), and result in blisters which may cause real suffering. Many people have experienced this with sorrow after lying about too long after a swim in the

*Broadcast over W. T. I. C., Aug. 12, 1926.

ocean. Sunlight applied too generously even to one prepared for it, may result in the skin peeling later. This is always an indication that the precautions were not observed. At sanatoria for the care of patients with tuberculosis of the bones and joints exposure to the sun is one of the most potent factors in the cure. It is a well known fact, however, that the sunning is done gradually, with longer and longer exposure of each part daily until the whole body can stand the sun treatment. The skin of children so exposed is evenly tanned and as soft as a rich pile on a silken rug.

But there are some who do not care for that "coat of tan" even in the summer season, and so are not interested in this one of nature's cosmetics. They wish one less powerful in effect. Fortunately there are many others on the list and one can be chosen which is closely allied to this—the one which produces that "warm glowing color". This would certainly be more satisfactory for those who dislike the extremes in any fashion. The success of this cosmetic depends entirely upon its constant and daily application. It has various parts each of which must be used wisely. They are labelled exercise, fresh air, daily baths.

Exercise

Exercise carries also a variety of styles to conform to the different types who are to use it. To produce that "warm glowing color" there is nothing like some form of exercise. For the person who sits a greater part of the day it is essential to choose that form of exercise which brings into play not only the arm and leg muscles but the trunk muscles as well. Watch a dog at his play—every muscle of his body is used as he stretches, runs, jumps and rolls over. Watch a child at play; his every movement calls into play the muscles of back, chest, arms and legs; when he stoops to pick up an object every muscle of the body moves. Not so the adult—it is a painful process reaching for something on the floor especially for those who are "fat and forty" because the trunk muscles are so seldom used. How many of you can, while standing on your feet and keeping the knees straight touch the floor with the palms of your hands? If you cannot here is where nature's cosmetic comes to your rescue.

Exercise, then, is a necessity. For young and old. The child takes to it naturally, the adult also, if he has made use of it freely since childhood. For the one who sits much of the day, exercise should be applied quite vigorously. Nothing like some sport to accomplish this purpose; the exhilaration of it makes it a pleasure and not a task. Each one should have his favorite—tennis, golf, handball, baseball, rowing, swimming, gardening, and in the winter, skiing, snowshoeing, and

skating. Did you ever see anyone come in from sports of this kind looking pale? The warm glowing color just naturally follows, for the heart is beating more rapidly, the blood is circulating more freely throughout the body—the muscles of the body are in better "tone". When the summer season has passed and with it the many opportunities for such sports one should make plans to continue this one of nature's cosmetics during the winter season. Exercise out of doors is the best since the sun and the air is beneficial, but if this cannot be accomplished, the daily dozen done in family group (just to add a bit of fun), swimming in indoor pools, bowling, and gym work are all good.

Although the auto has become a family necessity these days it is reacting unfavorably to all those who, because of this, take no exercise. If your auto does not allow you to walk at least two miles each day—better give up your auto.

Fresh Air and the Daily Bath

For that warm glowing color are recommended also fresh air and daily baths. Fresh air should be applied day and night. In the summer it is not difficult to apply since windows are flung wide open, one spends a greater time out of doors, and one often sleeps out of doors. This is easy of accomplishment in the winter, since windows should still be opened to promote better circulation of the heated air. One sleeps more restfully in a room continuously supplied with fresh air, and it is becoming more and more easy to sleep out of doors.

The daily bath should be of the cool rather than the hot variety. For those who can stand it a cold plunge or shower should be a daily occurrence winter and summer. For those who react unfavorably to the cold the chill may be slightly removed, but never made so warm as to feel warm to the skin. The best results are obtained from this cold bath followed by a brisk rubdown. This is what brings that glow of color to the skin which is more lasting than the color produced by any other cosmetic.

Food an Important Cosmetic

Smoothness and fine quality of skin is secured by another of nature's beautifiers. While the application of pure water, cleansing soaps and frequent massage will do much, nothing can accomplish the purpose like nature's cosmetic marked "food". Walk along the street some day and mark the muddy complexions of those who have not yet learned this secret, or note eruptions and spots on the skin of those who would spend many an honest dollar to get rid of them by outward application. One trial of this well known natural beautifier is suffi-

cient to convince one that nothing is so potent in its effect as rightly chosen food. Many testimonials could be secured from those who have tried this and found it successful. A woman came in great distress one day saying that her clear complexion had disappeared entirely and was there anything she could do about it. In talking over her diet with her it was discovered that she was eating meat three times a day, never ate vegetables, and did not like milk. But she was willing to do anything to get back her complexion of which she was justly proud. On advice she chose nature's instead of other cosmetics, gave up meat entirely for a time, drank a quart of milk a day and a quantity of fresh green vegetables, and here is where the testimonial comes in—in two weeks' time with strict adherence to this diet her complexion was cleared up entirely.

Try this remedy, you who are overfond of rich pastries, hot breads, cakes and pies. Try the milk vegetable diet this summer and see if that muddy, pasty complexion does not take on a more ruddy glow and many of the blemishes disapper.

Yet another testimonial—this time a young office assistant—much alarmed because of a skin eruption which seemed to be increasing. A wise doctor had recommended "more vitamins", so she sought further advice from a nutritionist. On analyzing her diet it was discovered that she also had been using too much meat—a high protein diet probably being the direct cause of her trouble. She was put on a vegetable, fruit, milk diet which cleared up her difficulty in a short time.

A Convert to Right Food

Still a third testimonial for nature's cosmetic labelled "food" a nutrition exhibit showing foods which every child and adult should have daily was on display at one of the fairs in this state. An adult appeared greatly interested in it, but like many adults began to cite the reasons why this and that food did not agree with him. He claimed that he had not enjoyed good health for many years, and certainly he did not need to admit it for his looks, his muddy complexion, his lifeless manner proclaimed it. In defense of the exhibit various foods were urged as being health promoting—particularly more of coarse cereals and breads, a plentiful supply of all the vegetables and fruits, less of the sugars, starchy and fatty foods. There seemed to be no response to these suggestions and the nutritionist felt that the old adage was true "it is difficult to teach an old dog new tricks". Fancy her surprise then, when two months later in another part of the state—before the same type of food exhibit appeared the same man. He was alert and healthy looking, and so was not recognized at once

until he began his testimonial for nature's cosmetics. He reminded her of the previous conversation, said he had acted on the suggestions and had never felt so well in his life. He was indeed a convert to right food.

And so we might continue were there more time. True it is that those who have tried living on a well balanced diet feel a glow of health, and look more healthy than those who are struggling along on an over starchy, high meat diet. Many a muddy sallow complexion is the result of too little roughage in the diet. If this has been the habit of years it is difficult to clear it quickly, but once started on a new food regime and persisted in—one or two green or root vegetables every day in the year–a salad with oil **daily,** coarse breads and some coarse cereals with bran, plenty of fruit, and a quantity of water—the results in the end will be startling. This is natures' method for relieving the system of those waste products which, if allowed to accumulate will result in only half-way health, dull, listless expression, perpetual headaches and a complexion which is poor in color and far from clear.

Perhaps there are others in this radio audience who have testimonials to offer. The State Department of Health, 8 Washington Street, Hartford, will be glad to hear from you as to your success with nature's cosmetics.

LIST OF PHYSICIANS LICENSED SINCE APRIL 1, 1926

April

Bridgeport, Conn. Greenspun, David S., 144 Golden Hill St.
Bridgeport, Conn. Lyon, Don D., 144 Golden Hill St.
Bridgeport, Conn. Snurkowski, Chas. V., St. Vincent's Hosp.
Bridgeport, Conn. Thompson, Sidney A., 404 Medical Bldg.
Bristol, Conn. Laplume, Albert A., 136 No. Main St.
Danbury, Conn. Neuendorf, Frank M., 4 Terrace Place.
Greenwich, Conn. Vessie, Percy R., Blythewood Sanatorium.
Hartford, Conn. Driscoll, Jerome J., St. Francis Hospital.
New Britain, Conn. Des Jardins, Anatole, New Britain Gen. Hospital.
New Britain, Conn. Pullen, Richard W., Health Officer.
New Haven, Conn. Logan, William J., 483 East Street.
New Haven, Conn. Poole, Allan K., 35 Carleton Street.
New London, Conn. Stone, Ruth P., 64 Huntington Street.
Norwich, Conn. Rasmussen, Hans N., 119 McKinley Avenue.
So. Manchester. Harville, Clifford H., Cheney Brothers.
Jackson, Arthur H., Brooklyn Hospital, Brooklyn, N. Y.
Hein, Theodore L., 306 West 94th Street, New York.
Middleton, John I., 1 West 54th Street, New York.

May

Greenwich, Conn. MacDonald, Bazil W., Greenwich Hospital.
Middletown, Conn. Compson, Florence M., Conn. State Hospital.
New Haven, Conn. Horn, Harry, 180 Putnam Street.
Waterbury, Conn. Atkins, Samuel M., St. Mary's Hospital.

June

New Haven, Conn. O'Connell, Thomas W., New Haven Hospital.

July

Naugatuck, Conn. Johnson, Harold A., 297 Church Street.
Waterbury, Conn. Mills, Bernard L., Waterbury Hospital.
West Hartford, Conn. Cheney, Albertus A., 40 Robin Road.

August

Bridgeport, Conn. Brodsky, Michael E., 829 Park Avenue.
Bristol, Conn. Scott, William J., 18 Laurel Street.
Enfield, Conn. Parkhurst, Jane H. S., Dr. Vail's Sanatorium.
Hartford, Conn. Karelitz, Samuel, Jr., 23 Pliny Street.
Hartford, Conn. Keefe, Raymond S., 272 Franklin Avenue.
Hartford, Conn. Kunkel, Frederick E., 126 Vernon Street.
Hartford, Conn. Moriarty, Mortimer E., St. Francis Hospital.
Hartford, Conn. O'Neill, Chas. W., St. Francis Hospital.
New Britain, Conn. Matteis, Joseph T., New Britain General Hospital.
New Canaan, Conn. Clark, Elizabeth L., Box 82.

New Haven, Conn. Artman, Edward L., U. S. Vet. Hospital, No. 41.
New Haven, Conn. Cottiero, Thomas, 63 Warren Street.
New Haven, Conn. Goldstein, Morris, 451 George Street.
New Haven, Conn. Hinenburg, Morris, 120 Sherman Avenue.
New Haven, Conn. Thalberg, Reuben, 250 Orchard Street.
New Haven, Conn. Thompson, Lloyd J., Sterling Hall, Yale University.
New Haven, Conn. Woodford, Francis B., 50 Trumbull Street.
New London, Conn. Blank, Eric H., 125 Broad Street.
Norwalk, Conn. Tracey, Edward J., 23 West Avenue.
So. Glastonbury, Conn. Grower, Julius H.
Stamford, Conn. Joergensen, Hans, Ambassador Arms.
West Hartford, Conn. Roth, Frank E., 35 Beverly Road.
Wilton, Conn. Lucas, Daniel R.
Stetson, Harry W., Orford, New Hampshire.
Stephens, Richmond, 119 West 58th Street, New York.
Zenneck, Julius F., 38 King Avenue., Weehawkin, N. J.
Cicma, Haralambie, G., 98 Austin Street., Worcester, Mass.

LIST OF MIDWIVES LICENSED SINCE APRIL, 1926

April

Bridgeport, Conn. Aird, Anna E., 1358 Stratford Avenue.
New Haven, Conn. Blasius, Mary, 111 James Street.

Laboratories

SUMMARY OF BUREAU ACTIVITIES FOR AUGUST 1926

DIAGNOSTIC

	+	—	?	Unclassified	Total	
Typhoid	11	182	3	....	196	
Paratyphoid A	1	193	2	....	196	
Paratyphoid B	1	193	2	....	196	
Diphtheria	24	711	1	....	726	
Diphtheria Virulence	5	19	....	....	24	
Vincent's Angina	2	437	....	....	439	
Haemolytic Streptococci	11	428	....	....	439	
Tuberculosis	29	89	....	....	118	
Syphilis	255	1375	152	....	1782	
Gonorrhoea	48	107	....	....	155	
Pneumonia	1	....	....	....	1	
Malaria	1	5	....	....	6	
Rabies	5	15	....	....	20	
Special specimens	2	12	....	1	15	4,313

CHEMICAL AND BACTERIOLOGICAL

Milk samples	554	
Water samples	1027	
Sea food samples	103	
Sewage	4	
Clinical thermometers	22	1,710
Total examinations made		6,023

ANOTHER BIG MONTH

We can say of August what we said of July. In August, 1926 more samples were examined than in any previous August during the history of the laboratories. The total number of specimens is 45 per cent greater than for last August and it lacks only 25 specimens of being an increase of 100 per cent over August of 1924, and that month was the largest month of August in the history of the Laboratories up to that time. During this month 443 samples of sea water and 280 samples of water collected on bathing beaches were examined. There was an increase in practically all other types of work.

Vital Statistics

MONTH OF JULY

TOTALS TO DATE, FIRST SEVEN MONTHS, 1926, 1925, 1924

	Births	Birth Rate*	Marriages	Mar. Rate*	Deaths	Death Rate*
1926	16,675	18.3±.1	6,379	7.0±.07	11,332	12.5±.1
1925	17,708	19.8±.1	6,661	7.5±.07	10,659	11.9±.1
1924	18,809	21.5±.1	7,126	8.1±.07	10,278	11.7±.1

*Rates on annual basis per 1,000 population

The figures given above show the accumulated totals for the years 1926, 1925 and 1924 for the events listed together with the rates per 1,000 population on an annual basis.

It will be immediately apparent that there has been a very marked decrease in births and birth rate. This cannot be explained as a chance phenomenon. There are deeper forces at work upon which it would be advisable to speculate without special analysis.

Associated with a decrease in births and birth rate a decrease in marriages and marriage rate might be inferred, but by no means a necessary association. As it happens there has been a decrease in marriages. This decrease is greater than what might be expected to arise from the operation of chance.

While there have been decreases in the statistics so far discussed, there has been an increase in the number of deaths and an increase to such an extent that the rate has been significantly affected. An increase in rate of one or two tenths of a point would have been indicative of a variation such as might arise from random sampling. The actual increase of six tenths of a point is therefore to be regarded as advance notice of an increase in rate for the year.

Births

The records of births received for July numbered 2455 as compared with 2633 in 1925 giving a decrease of 178. Compared with 1924 this year is prectically 400 below. The monthly rate on an annual basis is 18.9, which is the lowest to appear in the past six years.

There are 48 towns in the state having populations of 5,000 or more, and of these 20 reported more births in 1926 than in 1925 for July. However, only 6 reported increases of 10 or more, these towns being:

Bristol, ...	42±11	Plainfield, ...	10± 4
Greenwich, ...	19± 9	Stamford, ...	14±14
Hamden, ...	10± 6	Waterbury, ...	21±19

The figures after each town give the increase and also the chance fluctuation. An increase, to be significant, must be at least twice its chance fluctuation and to be absolutely certain frequently an increase is considered worthy of notice only when it is three times, or more, its dispersion. If the standard of twice the chance fluctuation be adopted, then the increases for Bristol, Greenwich and Plainfield are significant. On the assumption of three times the dispersion, only Bristol is significant.

Stillbirths

Reports of 91 stillbirths were received as compared with 95 a year ago. The decrease of 4 is of course of no significance. The rate per 1,000 total births is 35.7±3.6 and a year ago it was 35.2±3.5. For Hartford the rate was 52.0, for New Haven 42.1, for Waterbury 45.2 and for Bridgeport 33.7.

With regard to sex 51 were stillbirths of males and 40 of females. This gives a sex ratio of 127 males to 100 females which is somewhat lower than usual. For the year to date there have been 629 stillbirths including July. Of these 356 are males and 273 females. The sex ratio for the year is 130 males to 100 females. The probable sex distribution in these 629 stillbirths is, from the figures above, 566±32 males in 1,000 stillbirths with 434±26 females. The difference is 132 ±41 which shows that there is a distinct tendency toward the male.

Deaths

The number of deaths reported were 86 more than a year ago, there being 1,300 this year as compared with 1,214. The death rate, on an annual basis, rose to 10.0 per 1,000 of population. However, in 1921 the rate was 10.8 but in that year, which was one of the most favorable ever recorded, the great savings effected had already been made by the reduction in pneumonia during the winter months. This year no such savings have been made and it seems more than likely that a higher annual rate is to appear when the year is finished.

Below is given an analysis of certain causes of death, comparing 1926 with 1925.

Cause of Death	1926	1925	Increase	Decrease
Diseases of Heart	204±14	182±13	22±20	....
Epidemic Encephalitis	2± 1	4± 2	....	2± 2
Pneumonia Undefined	0	1± 1	....	1± 1
Typhoid Fever	1± 1	1± 1	....	....
Measles	6± 2	1± 1	5± 3	....
Scarlet Fever	3± 2	1± 1	2± 2	....
Whooping Cough	5± 2	5± 2	....	....
Diphtheria	2± 1	7± 3	....	5± 3
Influenza	7± 3	2± 1	5± 3	....
Tuberculosis, Pulmonary	66± 8	85± 9	....	19±12
Tuberculosis, Other Forms	13± 4	25± 5	....	12± 6
Cancer	134±12	143±12	....	9±17
Cerebrospinal Meningitis	0	4± 2	....	4± 2
Poliomyelitis	0	5± 2	....	5± 2
Lobar Pneumonia	24± 5	27± 5	....	3± 7
Broncho Pneumonia	22± 5	17± 4	5± 6	....
Diarrhoea and Enteritis (Under 2)	19± 4	20± 4	....	1± 6
Puerperal Diseases	17± 4	7± 3	10± 5	....
Accident	123±11	89± 9	34±15	....
Suicide	16± 4	16± 4	....	....
Homicide	6± 2	5± 2	1± 3	....
Other Causes	630±25	567±24	63±35	....
Totals	1,300±36	1,214±35	147	61

These figures are rather surprising, if it was expected that they would show where the significant increase was experienced. As a matter of fact the only increase of note was that for accidental deaths. The increase in deaths due to puerperal diseases is possibly significant. There are three decreases which are perhaps significant— they are for tuberculosis, forms other than pulmonary, cerebrospinal meningitis, and poliomyelitis.

While accidental deaths increased there was a very slight decrease in the sub-division of automobile deaths, there being 25 this year as compared with 28 last year. The decrease of 3 is of course of no moment.

FOR SIX YEARS—JULY, 1926

CONNECTICUT	1921	1922	1923	1924	1925	1926
BIRTHS	2914	2717	2739	2853	2633	2455
Birth Rate	24.6	22.5	22.3	22.8	20.6	18.9
MARRIAGES	1016	863	970	952	856	870
Marriage Rate	8.6	7.2	7.9	7.6	6.7	6.7
DEATHS	1280	1208	1200	1199	1214	1300
Death Rate	10.8	10.0	9.8	9.6	9.5	10.0
COMMUNICABLE DIS.* DEATHS	133	127	119	109	111	90
Per Cent to Total Deaths	10.4	10.5	9.9	9.2	9.1	6.9
DEATHS UNDER 1 YEAR	220	183	142	149	115	127
Rate Per 1,000 Births	77.1	69.2	55.3	56.2	46.3	53.1

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

Births, Marriages and Deaths

July, 1926 Statistics	Population Est. as of July 1, 1926 Based on U. S. Census	TOTALS Births	Stillbirths	Marriages	Deaths	DEATH RATES All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	AGE GROUPS Under 1 year	1 to 5 years	65 years and over
State of Connecticut	1,558,996	2455	91	870	1300	10.0	0.5	53.1	127	48	454
Ansonia	19,291	12	3	9	10	6.2	0.1			2	3
Branford	7,014	8	2	3	9	15.4					1
Bridgeport	170,717	258	9	90	111	7.8	0.4	39.2	10	3	27
Bristol	25,354	81	2	19	24	11.4	1.4	40.4	2	3	5
Danbury	21,931	38	1	12	38	20.8	0.5	68.4	3		15
Derby	12,732	36	1	3	16	15.1	0.9	113.2	4		5
East Hartford	13,950	7		5	9	7.7		81.1	1	2	3
Enfield	13,039	23		14	13	12.0		85.1	2		7
Fairfield	15,041	14		10	7	5.6					3
Glastonbury	6,124	6		4	1	2.0					1
Greenwich	25,790	53	3	53	21	9.7		26.3	1	1	8
Groton	11,045	13	1	3	9	9.8	1.1				3
Hamden	10,434	22		12	4	4.6					2
Hartford	164,228	364	20	90	166	12.1	0.5	54.6	18	8	51
Killingly	9,218	11		7	10	13.0		307.6	4		5
Manchester	21,505	32	1	16	14	7.8		26.5	1		10
Meriden	36,529	65	1	18	26	8.5	0.3	15.9	1	2	8
Middletown	22,891				38	19.9	1.0	20.6	1	1	16
Milford	14,073										
Naugatuck	16,589	11		3	9	6.5		91.6	1		4
New Britain	69,482	149	2	32	44	7.6	0.7	58.1	8	1	9
New Haven	181,823	318	14	113	165	10.9	0.3	50.2	16	7	48
New London	29,566	70	3	28	33	13.4		16.1	1	4	12
Norwalk	29,859	52	2	25	34	13.7	0.4	74.5	4		14
Norwich	30,576	65		24	31	12.2	0.4	93.5	6		16
Plainfield	8,694	14	1	8	2	2.8	1.4				1
Plymouth	6,364	5		2	3	5.7	1.9				1
Putnam	9,105	10	1	5	14	18.4		182.7	3		6
Seymour	8,116	6		3	7	10.3		240.0	2		2
Shelton	11,398	9	1	1	7	7.4	1.1				
Southington	9,727	15		3	4	4.9					2
Stafford	5,454	15		4	7	15.4		67.0	1	1	5
Stamford	47,373	106	3	34	37	9.4	1.0	10.7	1	1	13
Stonington	10,930	11		4	17	18.7	1.1	75.9	1		5
Stratford	16,768	9		7	3	2.1					2
Thompson	5,203	2			2	55.3					1
Torrington	24,929	36	1	8	11	5.3		24.5	1	1	5
Vernon	8,787	16	1		5	6.8		85.1	1		4
Wallingford	12,571						1.0				
Waterbury	104,047	190	9	58	80	9.2	0.3	70.6	13	2	15
Watertown	7,359	6		3							
West Hartford	11,562	10		6	10	10.4	1.0	135.5	2		4
West Haven	18,334	35		10	29	18.9		125.9	4		12
Westport	5,685	5		5	4	8.4				1	1
Wethersfield	5,141	2		2	2	4.7					
Winchester	9,074	12		6	9	11.9				2	2
Windham	14,391	35	1	13	20	16.7	1.7			2	10
Windsor	6,584	7			3	5.5	1.8				1
Towns under 5,000	212,599	191	8	95	182	10.3	0.2	55.1	14	4	86

for the month of July, 1926

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
204	2		1	6	3	5	2	7	66	13	134			24	22	19	17	123	16	6	498	291
3							1		2		2											
1											1							2				2
20						1		1	4	1	12			1	1	2	4	7	2		54	23
4									1	1	1				1	1		3			6	2
7				2				1		1	2				1			5	2		17	13
2											2					1	1	2			7	6
4														1					1			
2										1	3				2			1				
3											1											4
											1											
1						1					2						1	4			11	6
1					1				1		1							1				
1									1		1				1							
27				1				1	4	2	13			2	5	3		23	2	4	104	46
1											1				1	1						
2								1			5							1			5	1
3	1				1				2		2			2				3	1		10	4
8									2		3			1	1	1	1	5	2		28	23
1											1						1					1
4			1	1		1			3	1	6			1		1	2	5			19	4
15	1						1	3	2		24			3	3	1	3	9	2		67	39
8									1	1	3			1				5			18	13
4									1		4			2		1		2			8	3
5						1			3	1	3				1			1			8	4
									1													
					1				1													
2											1			1			1				6	2
1																1		1				
									5									1			4	4
2																						
2						1					1											
3									4	1	5			1				2	1		12	6
3									1									2	1			
1																						1
																		1				1
										1	2							2			5	1
1																					1	
6									2		8			2		4	3	9			44	16
1									1		1					2		2			3	
5									8		1			1							14	13
1															1						3	2
1																		1				
2															1						3	3
4				1					1		4							2			6	2
									1									2				
42				1					14	2	17			5	3			19	2	2	35	46

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF AUGUST, 1926

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of August, 1926, with the corresponding month for the years 1921, 1922, 1923, 1924, and 1925.

DISEASE	Average 1921-1925 for August	Mean 1921-1925 for August	1921	1922	1923	1924	1925	1926
Cerebrospinal Meningitis ..	4	3	1	12	3	10	3	1
Diphtheria	107	97	157	97	124	91	64	51
Encephalitis Epidemic	4	5	5	6	5	5	1	1
Measles	78	59	59	131	114	38	47	121
Poliomyelitis	20	18	21	9	18	36	14	5
Scarlet Fever	77	81	82	66	87	81	71	53
Smallpox	3	12	....	1	12	1	....	....
Typhoid Fever	58	51	96	55	51	45	41	32
Tuberculosis Pulmonary	134	133	165	145	133	125	100	120
Whooping Cough	198	149	140	149	229	148	323	113

A comparison of the morbidity on these diseases for the two preceding months, June and July with the August record is as follows:

	June	July	August
Cerebrospinal Meningitis	5	2	1
Diphtheria	53	47	51
Encephalitis Epidemic	2	2	1
Measles	1612	394	121
Poliomyelitis	....	1	5
Scarlet Fever	314	121	53
Smallpox	2	....	....
Typhoid Fever	9	22	32
Tuberculosis (pulmonary)	149	129	120
Whooping Cough	165	146	113

Cases of Other Reportable Diseases

Chickenpox	26	Septic Sore Throat	254
Conjunctivitis Infectious	3	Tetanus	2
Dysentery Bacillary	1	Trachoma	1
Encephalitis Epidemic	1	Gonorrhoea	150
German Measles	8	Syphilis	85
Influenza	12	Chancroid	1
Malaria	1		
Mumps	7	Total	555
Para typhoid Fever	3		

Cases of Occupational Diseases

Acute Dermatitis	1	Occupational Eczema	1
Lead Poisoning	1		
		Total	3

Cases of Certain Reportable Diseases

August, 1926	Population Est. as of July 1, 1926	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Broncho-Pneumonia	Other Com. Diseases
State Total	1,588,996	32	121	53	113	51	1	5	120	8	38	37	555
NEW HAVEN CO.	467,392	10	21	11	16	17		1	46	3	12	10	325
New Haven	181,823	3	16	3	7	2			19	2		1	44
Waterbury	104,047	3	2	1		6			10		3	2	5
Meriden (city and town)	36,529	2		3	3	1			5	1	8	4	14
Ansonia	19,291		1	1	2	3			4				11
West Haven	18,334		1	2		1		1	2				
Naugatuck	16,589												
Wallingford (town and boro)	12,571				1	4							4
Milford	14,073	1		1					2			1	3
Derby	12,732												
Hamden	10,434		1		1						1	1	3
Branford (town and boro)	7,014				2				3				26
Seymour	8,116												
Towns under 5,000	25,830	1							1			1	215
FAIRFIELD CO.	371,561	8	1	24	24	21			11	1	4	3	28
Bridgeport	170.717	4		10	4	9			5	1	3	1	19
Stamford (city and town)	47,373	2		1	5	5						1	1
Norwalk	29,859			3	2								
Danbury (city and town)	21.931	1		2					3				1
Greenwich (town and boro)	25.790			1	2								
Stratford	16,768				1	1							1
Fairfield	15 041	1		2		4							
Shelton	11,398			2									
Westport	5,685			3									
Towns under 5,000	26.999		1		10	2			3		1	1	6
HARTFORD CO.	393,501	4	18	9	58	5	1	2	46	3	9	16	149
Hartford	164,228	1	3	8	14	2	1		23	1	7	8	109
New Britain	69,482	1	4		16				13	2		5	17
Bristol (city and town)	25,354		5			3			3				3
Manchester	21.505				1								5
Enfield	13,039		1		2			1	1			1	1
East Hartford	13,950	1											
Southington (town and boro)	9,727				1				1				
West Hartford	11,562	1			3				2			1	3
Windsor	6.584			1					1			1	6
Glastonbury	6,124		3										1
Wethersfield	5,141								1				
Towns under 5,000	46,805		2		21			1	1		2		4
NEW LONDON CO.	113,554	3	57	7	2	3		1	9	1	9		30
Norwich (city and town)	30.576	2	54	2					1	1			
New London	29,566	1		3					3		4		13
Stonington (town and boro)	10,930		2										1
Groton (town and boro)	11,045		1	1	1						4		1
Towns under 5,000	31,437			1	1	3		1	5		1		15
LITCHFIELD CO.	80,282	2	11		6	4			2		2	2	2
Torrington (town and boro)	24,929					1						1	
Winchester (inc. Winsted)	9,074										1		
Plymouth	6.364												
Watertown	7,359					1							
Towns under 5,000	32,556	2	11		6	2			2		1	1	2
WINDHAM CO.	55,799	4	3	1					2		1	2	3
Windham (inc. Willimantic)	14,391												1
Putnam (city and town)	9,105	1	1						1		1	1	
Plainfield	8,694	2											
Killingly (inc. Danielson)	9,218		1						1				1
Thompson	5,203		1									1	1
Towns under 5,000	9,188	1		1									
MIDDLESEX CO.	49,185	1	10		3			1	2		1	3	15
Middletown (city and town)	22,891		7								1	3	7
Middletown State Hospital									1				2
Towns under 5.000	26,294	1	3		3			1	1				6
TOLLAND CO.	27,722			1	4	1			2			1	3
Vernon (inc. Rockville)	8,787								2				
Stafford (town and boro)	5,454			1	4							1	
Towns under 5,000	13,481					1							3

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

Vol. 40 October, 1926 No. 10

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STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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STATE DEPARTMENT OF HEALTH

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This Issue Contains

CONNECTICUT

HEALTH BULLETIN

Vol. 40 October, 1926 No. 10

Issued Monthly by the

STATE DEPARTMENT OF HEALTH

State of Connecticut
Health Bulletin

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PROTECT CHILDREN AGAINST DIPHTHERIA

Toxin-antitoxin Saves Lives

So states the State and Provincial Health authorities in their conference plan for diphtheria prevention. Nobody wants his child to contract diphtheria. Nobody would willingly refuse a simple means of infallible protection. Yet even among well informed parents we find a certain hesitation about having the pre-school youngsters immunized with toxin-antitoxin. "It's all right," they will say to you, "provided you get good virus." The answer is that the toxin-antitoxin produced today is as harmless as it is efficient. In the following paragraphs Dr. George W. McCoy of the U.S. Public Health Service one of the foremost authorities of the world on the subject of antitoxins and serums, gives the facts that every parent should know about the use and production of toxin-antitoxin under the caption

Some Federal Safeguards of the Manufacture and Distribution of Diphtheria Toxin-antitoxin Mixture

Diphtheria toxin-antitoxin mixture has in the last few years come into such general use in the prevention of diphtheria as to occupy a place of importance in the preventive immunization against disease probably second only to smallpox vaccine. Every year thousands of children are immunized, and the effect of this excellent prophylactic measure is being reflected in the lowered diphtheria rate which is evident in localities where much work has been done along this line. This result in the control of a dreaded disease of early childhood is all the more gratifying in that immunization is accomplished with practically no local or general reactions in the innoculated children. **Very young children unquestionably take toxin-antitoxin mixture better even than those of school age, the ideal age for producing immunity being around the end of the first year of life. By this time the child will have lost the immunity acquired from the mother, and will soon begin to come more generally into contact with other children, with the increase in danger of acquiring diphtheria.** Heaviest mortality rates from diphtheria are encountered in children below the school age, and it is probably safe to say that the immunization of one child of this group will equal the immunization of five school children, in effect on the diphtheria death rate. Some means of reaching this very important group of children is very much needed.

Toxin-antitoxin mixture is prepared only in establishments holding license issued by the Secretary of the Treasury, upon

recommendation of the Public Health Service. The Service, through the Hygienic Laboratory insures that the establishment is properly equipped with both physical apparatus and properly trained personnel to carry out the careful technique of manufacture and testing, before recommending a license. This information is obtained always by means of a careful personal inspection by an officer of the Public Health Service.

The product is prepared, as the name indicates, from diphtheria toxin and diphtheria antitoxin, mixed in such proportions that the former, a poison derived from the diphtheria bacillus, is almost, but not quite, neutralized by the antitoxin, which is obtained from the blood of a highly immunized horse. Very careful, accurate testing is always done on each lot.

The toxin is usually prepared in the establishment and allowed to age for at least one year. By this time the first rapid deterioration will have taken place. The strength is next accurately determined by inoculation in guinea pigs weighing 250 grams (8-9 ounces). One drop of a good toxin is sufficient to prepare three doses, or one course of immunizing treatments of toxin-antitoxin mixture.

The antitoxin is a specially selected, highly concentrated product, as it is derived from the serum of the horse and it is desired to keep the dose as low as possible. One drop of a good antitoxin is sufficient to prepare 2000 doses of toxin-antitoxin mixture. The antitoxin is also aged to make stable, and then very carefully tested to determine the exact strength expressed in units per cubic centimeter. Guinea pigs are also used for this test.

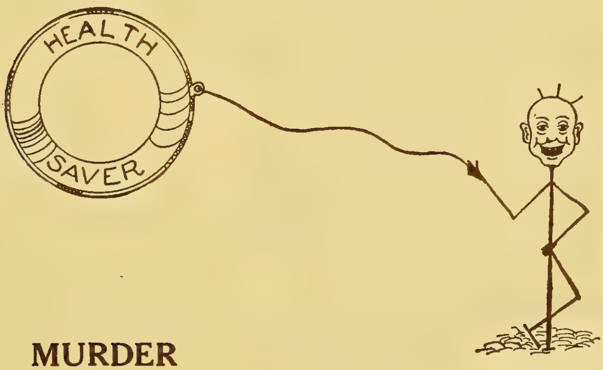
These two products are next diluted with sterile phenolized salt solution and mixed in such proportions that five human doses will kill a 250 gram guinea pig in from 6 to 20 days, while one human dose will cause a local reaction in the guinea pig, but will only cause paralysis in from 15 to 30 days. It is thus seen that the amount which shows no acute symptoms in the very susceptible guinea pig weighing ½ pound, could not possibly harm a child weighing from 20 to 80 pounds. This exact degree of toxicity is difficult to obtain, and can only be secured by careful measurements of ingredients, the strengths of which are accurately known. Frequent adjustments and re-tests are usually required.

After the mixture is completed and adjustments of toxicity are made, the entire lot is filtered to sterilize, and final toxicity and sterility tests are applied by the manufacturer. If these tests are satisfactory and the manufacturer considers the mixture suitable for the market, samples of each lot are sent to the Hygienic Laboratory, where sterility and guinea pig tests

are also made. No lot is released for distribution until tests at the Hygienic Laboratory are satisfactorily completed.

Owing to the tendency of diphtheria toxin to deteriorate, and particularly when diluted, this product is only allowed to remain on the market for six months, and precautions should be taken to keep in a cold place but not allowed to freeze. Freezing causes a slight turbidity to appear and renders the product inactive.

With the present type of mixture which is in universal use, the original toxin content is 1/30 that of the older mixtures, the product is water clear, and with the great care in manufacture, with check testing by different laboratories, the public is assured a safe and effective product which may be employed with confidence.



MURDER

Diphtheria cases and deaths

mean

neglect to protect by

Immunization.

Is this neglect murder ?

SEPTIC SORE THROAT IN CONNECTICUT

By Millard Knowlton

Connecticut has had one milk-borne septic sore throat outbreak per year for the past three years. These three outbreaks comprised 80 cases in Farmington in 1923, 89 in Danbury in 1924, and 45 in East Hampton in 1925. There were no deaths in any of these outbreaks. This year there were two such outbreaks in August, one following upon the heels of the other and one occurring in territory adjoining the other. The Guilford outbreak comprised 222 cases with five deaths, and the other outbreak among users of milk from a Hamden dairy comprised some 90 cases distributed in half a dozen towns surrounding New Haven.

The Guilford Outbreak

The State Department of Health was first called regarding the Guilford outbreak on August 10. On August 11 the sale of milk from the implicated dairy was stopped. Of the 222 cases discovered during the investigation, 184 were using milk from this dairy and 38 were using milk from all other sources.

Milk Supply of Guilford. The implicated dairy sold about 200 quarts of milk per day in the village of Guilford, about 84 quarts in Madison and 84 quarts in Mulberry and Sachem's Head. Most cases occurred in Guilford but some occurred in other places where the milk was sold. The dairy was located in Guilford and the cows were tuberculin tested. Of the 38 cases using milk from other supplies, 19 obtained milk from another dairy selling about 225 quarts per day in Guilford, two from a dairy selling 60 quarts a day and three from a dairy selling 40 quarts per day. These dairies also sold milk elsewhere. Eleven of the 38 cases were using milk from their own cows and two obtained milk from Madison. From these data it appears that the Guilford outbreak like other outbreaks of septic sore throat consisted of a milk-borne outbreak of the disease superimposed upon a certain incidence of sore throat in the community. What happens in such cases is that the disease is spread slowly from one person to another until by some chance infective material reaches a milk supply and then a large number of cases appear among the users of the milk.

The Hemolytic Streptococcus. The germ causing septic sore throat is called a hemolytic streptococcus. There are many kinds of hemolytic streptococci so that the germ causing any particular case of disease or even an outbreak can not be identified so definitely as the typhoid bacillus or the diph-

theria bacillus. Thus, owing to the limitations of our knowledge concerning the hemolytic streptococcus, laboratory guidance in dealing with a septic sore throat outbreak is less valuable than in dealing with an outbreak of diphtheria or typhoid fever. In only a few instances were hemolytic streptococci found in throat cultures. In no instance were the germs found in cultures made from milk samples.

Lapse of time. In the absence of definite laboratory guidance an important factor in clearing up a septic sore throat outbreak, or any explosive outbreak of disease for that matter, is the lapse of time. The conditions leading to such an outbreak tend to adjust themselves if given time. When supplemented by careful studies to make sure that both handlers and cows are free from infection the sale of milk, stopped during an outbreak, may be safely resumed. In the Guilford outbreak the sale of milk was stopped August 11, cases of sore throat ceased to appear after August 13, and the sale of milk was again authorized ten days later, or August 23.

Onset. As to dates of onset, the case records show one onset each day for July 3, 6, 19, 22 and 28 and from July 29th to August 13th inclusive, the daily onsets were 2, 4, 4, 4, 63, 79, 11, 12, 1, 9, 4, 6, 7, 6, 1, and 4. Thus the outbreak was explosive in character, the majority of cases coming down on the 2nd and 3rd of August, reaching the peak on the latter date. The small number of cases occurring in Madison where more than a third as much milk was distributed as in Guilford would appear to indicate that massive infection present in the Guilford supply on about the 30th or 31st of July did not involve the milk sent to Madison.

Source of Infection. The dairy involved in this outbreak draws milk from two farms owned by one person and purchases milk from another. Of the eight men employed on the two farms, six gave a definite history of sore throat, the onset dates being given as June 18 and August 2, 3, 5, 7 and 10 respectively. Members of families living on both farms have also had sore throats. Of the two farm employees not giving a definite history of sore throat, one reports having had a slightly stiff neck for a day or two which may have been a mild sore throat and the other gave a positive culture for hemolytic streptococci on the first round of cultures. Thus it appears that the infection was very thoroughly disseminated among the employees on this farm.

The date the milk carried such massive infection as to give rise to the large number of cases having their onset on August 2 and 3 is rather definitely fixed by one hotel which ordinarily obtains milk from other sources but on July 30 obtained a 40 quart can of milk from the dairy concerned in this outbreak. Several cases of septic sore throat developed at this hotel.

Much complaint was heard concerning the milk from this supply souring soon after reaching customers or even being sour at the time of delivery. This was explained on the ground that the cooling and refrigeration systems had not been inadequate up until a week or so before the investigation of the outbreak. With milk kept at a high temperature even a mild infection of the milk may result in multiplication of organisms to such an extent as to give massive dosage.

The Hamden Outbreak

On the very day that resale of milk from the Guilford dairy was permitted, pasteurization of milk from a Hamden dairy was begun. This supply comprised about 800 quarts per day of certified milk. It was distributed in Hamden, Branford, East Haven, New Haven, West Haven and Milford. The outbreak included cases throughout this entire district though the first cases to show up were in Branford near a store at Indian Neck that had dispensed milk shakes made from the implicated Guilford supply. No evidence was revealed during the investigation indicating that the two outbreaks were related to each other in any way except proximity in time and space.

Spotting the Milk Supply. Pasteurization of the Hamden supply was begun after information had been hastily gathered concerning forty cases of sore throat, 32 of which were among users of this supply. Approximately 84,000 quarts of milk a day are sold in New Haven with an estimated population of 181,823. The estimated population of the five other towns is 54,529. On this basis the estimated milk supply for the five towns, assuming the same per capita consumption as in New Haven, would be approximately 25,000 quarts per day. Thus the implicated dairy furnished something like 800 quarts per day out of a total of 109,000 quarts per day supplied to the whole region. A simple mathematical calculation will show that 32 cases on the 800 quart supply as compared with 8 cases on the 109,000 quart supply represents approximately 500 times the normal incidence of sore throat on the smaller supply. Later figures totaling 67 cases on the one supply as against 18 on other supplies do not change the ratio materially. Some six or eight cases are being investigated at the present writing with reference to milk supply.

Onset Dates. The number of cases showing the first symptoms on each day from August 8th to August 31st were 2, 3, 4, 2, 0, 4, 0, 8, 6, 3, 1, 8, 7, 8, 6, 4, 2, 3, 3, 3, 1, 2, 1, and 0, respectively. From these figures it will be noted that the outbreak was not of the explosive type such as the Guilford outbreak. It seems quite likely that this outbreak may have

passed unnoticed had attention not been directed to milk as a source of infection in septic sore throat by the Guilford outbreak which immediately preceded it.

Outbreak Not Related. As previously stated, the two outbreaks appear to be entirely independent except that one followed the other closely in time and the territory involved was contiguous. In fact some of the physicians think that the difference in symptoms in the two outbreaks suggest the possibility if not the probability of different strains of streptococcus being involved in the two outbreaks. For example, in Guilford, peritonitis was a striking and alarming symptom while in cases occurring on the Hamden supply, glandular enlargement with localized throat infections was said to characterize some of the more severe cases.

Distinctive Features. From the onset dates it appears that the outbreak on the Hamden supply was not explosive in character as was the case with the Guilford outbreak. Furthermore, there were fewer cases on a much larger supply than in Guilford. Also the strain of streptococcus in the Hamden outbreak appeared to be of less virulent type. Why these differences? The answer lies largely in the field of speculation.

Size of Dose. One suggestion is that the size of the dose may be an important factor. The human body may take care of a few germs but be overwhelmed by a large number. By prompt cooling of the milk and holding it at a low temperature until delivered, the Hamden dairy has made an enviable record for low bacterial counts. It is said that counts as low as 50 to 100 bacteria per cubic centimeter have been reported on samples of milk from this dairy. Thus it would appear that not much opportunity would be afforded for the multiplication of streptococci in this milk, and a slight infection of the supply would not result in massive infection by the time it reached the consumer. On the other hand a few germs would multiply in warm milk and give massive dosage.

Source of Infection. Whether infection reached the milk from a cow or handler could not be determined with certainty. In general where a cow becomes infected and passes infection on to the milk, the cases are apt to be distributed over a longer period of time than where infection reaches the milk by accident directly from a human case or carrier. There is no direct evidence, however, that any of the cows in this dairy were infected.

Milk Exposed to Infected Handlers. However, there were cases of infection among the milk handlers that afforded an opportunity for the milk to receive infection from the handler. For example, the cook in the private family of the dairyman

had sore throat beginning August 8 and remained in the house until August 16 before going to the hospital. While this cook was not directly connected with the dairy there was a door from her kitchen opening into the boiler room of the dairy plant and of course a door from the boiler room directly into the dairy itself. More significant still is the fact that one of the milkers in the dairy had a slight sore throat beginning August 8 which lasted only two or three days. This milker continued to milk cows until he was transferred to the dairy on August 12 or 13. He worked in the dairy for about a week before leaving for a trip to his house in Maine. Thus there was ample opportunity for this man to infect the milk during the process of milking or by handling milk in the dairy while he had a sore throat or was carrying the organism. On August 16 a child belonging to the family of the boarding house keeper for this dairy was discovered to be ill with sore throat, fever, and other symptoms which when later described to the health officer of Hamden made him suspect scarlet fever. The father of this child left the employ of the dairyman suddenly on August 20.

Thus there were three cases of sore throat among the people about the dairy before pasteurization was begun on August 23. One of the drivers developed sore throat August 26 and another August 29. One of the men brought in from the outside to operate the pasteurizing plant developed sore throat on September 12. These half dozen cases of sore throat represented about a fourth of the personnel connected with the dairy.

Infected Cows. As has been pointed out no evidence was obtained indicating that any of the cows were infected. The human type of streptococcus does not cause disease among cows. When infected with this type of organism cows are merely carriers. Infections of this kind are hard to detect. For this reason it is difficult to be sure that cows are free from infection. Dependence must be placed upon the lapse of time to clear up the situation and remove the hazard of further spread of infection through a milk supply once shown to be contaminated. The development of cases of sore throat among milk handlers resulted in postponing the resale of raw milk from this dairy for a longer time than otherwise might have been considered necessary. Pasteurization of milk was begun on August 23. Milk handlers came down with sore throat on August 26 and 29 and September 12 respectively, and the sale of raw milk was again permitted on September 21, one week after the last case of sore throat had developed. In the meantime, of course, all handlers and cows had been examined and appropriate tests made to discover infection if possible.

Whole Supply Infected. Infection of septic sore throat or other disease may reach an occasional bottle of milk if the bottle be handled by a person ill with the disease or a carrier of its germs. That infection was rather generally distributed throughout the whole supply in this case is indicated by the distribution of cases relatively in proportion to the amount of milk distributed to different localities irrespective of whether the milk was delivered in bottles or in cans. For example, there were 16 cases among the users of this milk in New Haven where 200 quarts per day were distributed during August, 15 cases in an orphans' home in Hamden where 125 quarts per day were distributed, and 12 cases among the guests and employees of a shore hotel using about 120 quarts per day. Practically all the milk delivered to this hotel was in cans rather than bottles so that one is led to suspect infection of the bulk of the milk rather than an infection of an occasional bottle by the handler.

Disease and Milk

The milk concerned in the Guilford outbreak was from tuberculin tested cattle and was sold raw. That concerned in the other outbreak was certified, which means, of course, that the cows were tuberculin tested. These two outbreaks serve to emphasize the point that the elimination of tuberculous cattle does not protect against diseases other than tuberculosis. They serve also to emphasize the point that it is not safe for persons who are ill to handle milk. In both these instances milk handlers have had sore throat. In both instances infection has been conveyed to the milk presumably by an infected handler. In both instances infection ceased to be distributed when the distribution of raw milk was stopped. This was accomplished by stopping the sale of milk in one case and by pasteurizing the milk in the other.

Pasteurized Milk in Demand

The experience with septic sore throat among users of a high grade certified milk has served to accentuate the value of pasteurization as an additional safeguard after all possible steps have been taken to produce a clean milk supply. As a matter of fact the demand for pasteurization is such that the proprietor of this dairy is still pasteurizing milk for those customers who wish it. All of the milk is of certified grade. Pasteurization merely adds a safeguard to those secured by measures to produce certified milk.

NEWS NOTES FROM THE FIELD

Physicians Licensed During September:

Hartford, Conn. Oberg, Frank T., 472 Park Street.
New Haven, Conn. Marshall, Carter L., 178 Dixwell Ave.
New Haven, Conn. Buckley, Richard C., New Haven Hospital.
West Hartford, Conn. Donovan, Arthur B., c/o R. F. Sullivan,637 Park Rd.
McLaughlin, English N., 470 Brookline Ave., Boston, Mass.

Conference of Laboratory Workers Study Milk-Sediment Test.

On August 30th a conference of laboratory workers was held at the State Capitol by the director of the Bureau of Laboratories of the State Department of Health to discuss the possibility of securing a more uniform state-wide procedure in the laboratory determination of visible dirt in milk. The conference was attended not only by the workers in the laboratories that have been certified by the State Commissioner of Health as approved laboratories having the right to legally publish the results of milk examinations as required by Sec. 2482 of the general statutes as amended by Chapter 101 of the Public Acts of 1925, but invitations were extended to other laboratory workers making milk examinations, to interested state officials and others. This group of laboratory experts was brought together because it was felt that the methods used throughout the state may not be strictly uniform because the standard method of the American Public Health Association giving directions for making this test can be interpreted in various ways. Requirements of the State Department of Health in approving laboratories for the examination of milk demand that only such laboratories shall be approved as will follow uniform standard laboratory procedures so that the milk producers and dealers of the State can be assured that results of published laboratory examinations will be authenic and reliable while it is the aim of the department to encourage all other bacteriologists making milk examinations to carry out the work on the same basis until such time as they wish to become approved laboratories.

As a result of a discussion of methods and of a comparison of the standards used in different laboratories it was the concensus of the meeting that uniform sets of standards be prepared at the Bureau of Laboratories of the State Department of Health. A committee consisting of Friend Lee Mickle, director of the Bureau of Laboratories of the State Department of Health, Dr. Jessie W. Fisher, director and bacteriologist at the Middletown city department of health laboratory, and Miss Katherine Marden, director of Laboratories in the Hartford city department of health was appointed to prepare a standard procedure for the test after thoroughly investigating the different sediment testers on the market and to investigate the feasibility of preparing uniform standard discs for distribution to all milk laboratories in the state. It was the general opinion that another meeting of all interested workers should be called to act on the recommendations of the committee when the investigations have been completed.

Laboratories

SUMMARY OF BUREAU ACTIVITIES FOR SEPTEMBER, 1926

DIAGNOSTIC

	+	—	?	Unclass-ified	Total	
Typhoid	4	225	6	......	235	
Paratyphoid A	......	235	......	......	235	
Paratyphoid B	12	223	......	......	235	
Diphtheria	11	439	......	......	450	
Diphtheria Virulence	7	13	......	......	20	
Vincent's Angina	3	327	......	......	330	
Haemolytic Streptococci	11	319	......	......	330	
Tuberculosis	26	95	......	......	121	
Syphilis	174	1,692	148	......	2,014	
Gonorrhoea	39	84	......	......	123	
Malaria	......	4	......	......	4	
Rabies	3	8	......	......	11	
Special specimens	3	8	......	2	13	4,121

CHEMICAL AND BACTERIOLOGICAL

Milk samples	1,173	
Water samples	416	
Seafood samples	97	
Sewage	5	
Ice	1	
Clinical thermometers	87	1,779
Total examinations made		5,900

Special Milk Investigation Increases Work

A total of 5,900 examinations were made in the Laboratories during September. This is more than twice the number examined during any corresponding month in the history of the Laboratories up to and including 1923 and is a striking increase over 1924 and 1925. The greatest increase is in the number of milk samples examined as 1,173 milk samples were examined compared with 298 examined last year. These examinations were most of them made in connection with a milk survey that is being conducted by a representative of the American Child Health Association in cooperation with the State Dairy and Food Commissioner.

Vital Statistics

MONTH OF AUGUST

TOTALS TO DATE, FIRST EIGHT MONTHS, 1926, 1925, 1924

	Births	Birth Rate*	Marriages	Mar. Rate*	Deaths	Death Rate*
1926	19,468	18.7±.1	7,361	7.1±0.7	12,592	12.1±.1
1925	20,246	19.8±.1	7,642	7.5±0.7	11,935	11.7±.1
1924	21,676	21.6±.1	8,200	8.2±0.7	11,520	11.5±.1

*Rate on annual basis per 1,000 population

Again there is a reduction in the birth rate over corresponding figures for 1925 and 1924. The above figures are accumulated over the first eight months for 1926, 1925 and 1924. Just how great this reduction is will be apparent from a comparison of the 1918 birth rate which was 26.3. Here is a falling off of some 8.0 per 1,000, which in 1,500,000 people, roughly the population of the state, means 12,000 less births.

The marriage rate has also declined. However, the second six months of the year will probaly show more marriages than the first six months, despite the effect of June, for the Lenten season always brings a reduced number of marriages. This year, in March, there were only 409 marriages, while in February (a short month) there were 734 and in April there were 951.

With respect to deaths there has been an increase, in numbers, of some 650 over last year and some 1,070 over 1924. However, increase in numbers fails to refer to population, which is also increasing and the rates will show the true state of affairs where a discussion of the numbers will fail. The increase in rate over 1925 is 0.4 point. This is probably an increase of significance, and no doubt at the end of the year increases will be found for all forms of pneumonia and influenza. Certainly there will be a large increase in the deaths from measles.

Births

The reports of births received number 2,449 as compared with 2,538 in 1925, a decrease of only 89. This decrease is somewhat lower than usual. Last month there was a decrease of 178, for instance. However favorable 1926 may be with

respect to 1925, certainly the showing is not favorable with the four years immediately preceding 1925. Referring to these years, 1926 is anywhere from 400 to 600 below.

Forty-eight towns in the state have estimated populations of over 5,000. Of these 48, 20 reported more births in 1926 than in 1925, which is exactly the number of last month. Listing those in which there were increases of more than 10, the tabulation will be as below:

Bridgeport	39 ± 23	New Britain	11 ± 16
Bristol	23 ± 10	New Haven	30 ± 26
Hartford	64 ± 26	New London	11 ± 11
Norwalk	14 ± 11		

Only two of these show increases of significance, namely Bristol and Hartford.

Stillbirths

There were 76 stillbirths during the month, 5 less than the 81 of 1925. The rate of stillbirths per 1,000 **total** births is 30.0 in 1926 and it was 30.9 in 1925. There is of course no significant difference in these rates. Running down the list of towns it will appear that in 350 total births in New Haven only 3 were stillbirths or about .9 per cent of the total number. This is a very low rate. In Bridgeport and Hartford the rate was approximately 4 per cent of the total, slightly higher than the state rate.

With regard to the sex of stillbirths 46 were males and 30 females for the month. This yields a sex ratio of 153 males to 100 females which is considerably higher than the ratio of 127 males to 100 females of last month.

So far this year there have been 705 stillbirths. Of these 402 were males and 303 were females. The sex ratio here is about 133 males to 100 females. If the 705 stillbirths be analyzed with respect to probability, the chance of a stillbirth being a male is 0.570 or there will be 570 males in 1,000 stillbirths as against 430 females. Calculating the variations to these figures which may arise from pure chance will give 570 ± 28 males and 430 ± 18 females, with a difference between the two sexes of 140 ± 33. This difference is now more than 4 times its chance fluctuation and of marked significance.

Deaths

August is to be expected as a favorable month and this year is no exception. For the past six years the numbers of deaths, as well as the rates, have run uniformly. This year the number recorded is 1,237 as compared with 1,276 in 1925, a decrease of 39. This decrease in itself is of no significance. A variation of 50, or even 100, might have been experienced.

However, it will help to have a month of lower mortality in a year when the deaths seem to show a tendency to increase. We can expect perhaps two more months of favorable experience before the upward trend of early winter sets in.

An analysis will now be given of certain causes of deaths in such form as to compare 1926 and 1925.

Cause of Death	1926	1925	Increase	Decrease
Diseases of the Heart	182±13	182±13	....	....
Epidemic Encephalitis	1± 1	1± 1	....	....
Pneumonia Undefined	1± 1	1± 1	....	....
Typhoid Fever	8± 3	3± 2	5± 3	....
Measles	1± 1	1± 1	....	....
Scarlet Fever	0	1± 1	....	1± 1
Whooping Cough	4± 2	13± 4	....	9± 4
Diphtheria	2± 1	4± 2	....	2± 2
Influenza	4± 2	3± 2	1± 3	....
Tuberculosis, Pulmonary ..	85± 9	62± 8	23±12	....
Tuberculosis, Other Forms	14± 4	15± 4	....	1± 5
Cancer	133±11	142±12	....	9±17
Cerebrospinal Meningitis ..	1± 1	1± 1	....	....
Poliomyelitis	0	3± 2	....	3± 2
Pneumonia, Lobar	19± 4	24± 5	....	5± 7
Pneumonia, Broncho	16± 4	26± 5	....	10± 6
Diarrhoea and Enteritis, (Under 2)	55± 7	55± 7	....	....
Puerperal Diseases	13± 4	15± 4	....	2± 5
Accident	93±10	125±11	....	32±15
Suicide	21± 5	21± 5	....	....
Homicide	3± 2	3± 2	....	....
Other Causes	581±24	575±24	6±34	....
Totals	1,237±35	1,276±36	35	74

Glancing over the increases there is possibly a significant increase in pulmonary tuberculosis. The increase column is strangely empty of entries. The increase from typhoid fever will serve to show how seasonal is this disease. The summer months will always show the greater numbers. This increase is on the borderland of significance. Of the decreases, those from whooping cough and accident are alone significant.

In the brief outline given above, eight of the causes show exactly the same number of deaths in both years. While this is of course mere coincidence, still it is of interest. It is to be regretted that suicides run so high and are the same in number for the last two years. But even more remarkable is the exact equality of deaths from diseases of the heart and diarrhoea and enteritis under two.

In 1925 August gave a record of 37 deaths from automobile accidents. In 1926 these deaths had decreased by 12 to 25. If this favorable record is kept up the year may witness . decrease in this unnecessary mortality.

FOR SIX YEARS—AUGUST, 1926

CONNECTICUT	1921	1922	1923	1924	1925	1926
BIRTHS *Birth Rate*	3024 25.5	2824 23.4	2787 22.7	2867 22.9	2538 19.9	2449 18.7
DEATHS *Death Rate*	1220 10.3	1264 10.5	1229 9.9	1242 9.9	1276 10.0	1237 9.5
MARRIAGES *Marriage Rate*	1004 8.5	940 7.8	1013 8.2	1074 8.6	983 7.7	902 6.9
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	138 11.3	113 8.9	137 11.1	116 9.3	91 7.1	105 8.5
DEATHS UNDER 1 YEAR *Rate Per 1,000 Births*	217 76.1	215 81.3	189 73.6	176 66.4	194 78.2	163 67.4

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

Births, Marriages and Deaths

August, 1926 Statistics	Population Est. as of July 1, 1926 Based on U. S. Census	TOTALS: Births	TOTALS: Stillbirths	TOTALS: Marriages	TOTALS: Deaths	DEATH RATES: All Causes (per 1,000 population)	DEATH RATES: Tuberculosis (per 1,000 population)	DEATH RATES: Children under 1 year (per 1,000 births)	AGE GROUPS: Under 1 year	AGE GROUPS: 1 to 5 years	AGE GROUPS: 65 years and over
State of Connecticut	1,558,996	2449	76	902	1237	9.5	0.7	67.4	163	46	405
Ansonia	19,291	17	....	11	9	5.6	0.6	41.9	1	....	4
Branford	7,014	11	....	3	10	5.3	3.4	98.3	1	1	4
Bridgeport	170,717	287	13	81	115	8.1	0.3	58.8	15	6	34
Bristol	25,354	64	3	19	21	9.9	0.5	101.0	5	2	7
Danbury	21,931	45	3	11	15	8.2	0.5	45.6	2	1	9
Derby	12,732	43	1	3	11	11.3	....	56.6	2	1	4
East Hartford	13,950	14	1	8	12	10.3	1.7	243.2	3	1	3
Enfield	13,039	17	....	12	10	9.2	0.9	85.1	2	....	3
Fairfield	15,041	11	1	7	9	7.2	0.8	200.0	3	1	2
Glastonbury	6,124	5	....	2	5	9.8	1.9	164.3	1	....	2
Greenwich	25,790	48	2	50	15	7.0	0.9	262.5	1	....	5
Groton	11,045	7	....	7	8	8.7	1.1	....	....	....	7
Hamden	10,434	12	....	3	7	8.1	....	71.4	1	....	2
Hartford	164,228	381	16	131	160	11.7	0.9	88.1	29	2	44
Killingly	9,218	14	....	11	6	7.8	....	153.8	2	....	2
Manchester	21,505	32	....	9	11	6.1	....	26.5	1	2	2
Meriden	36,529	67	2	17	29	9.5	0.7	47.7	3	4	10
Middletown	22,891	....	....	....	....	....	....	....	....	....	....
Milford	14,073	....	....	....	....	....	....	....	....	....	....
Naugatuck	16,589	7	....	15	6	4.3	....	....	....	1	1
New Britain	69,482	130	4	43	42	7.3	0.7	58.2	8	3	5
New Haven	181,823	347	3	123	150	9.9	0.4	59.7	19	8	46
New London	29,566	65	3	17	36	14.6	0.4	64.6	4	1	14
Norwalk	29,859	65	1	19	30	12.1	0.8	74.5	4	1	11
Norwich	30,576	57	2	25	28	11.0	....	46.7	3	3	5
Plainfield	8,694	6	....	3	3	4.1	....	79.5	1	....	....
Plymouth	6,364	13	....	1	5	9.4	....	151.8	1	....	2
Putnam	9,105	20	....	11	12	15.8	1.3	182.7	3	1	1
Seymour	8,116	4	....	1	5	7.4	....	120.0	1	....	2
Shelton	11,398	9	....	7	23	24.2	3.1	160.0	2	1	3
Southington	9,727	19	....	1	6	7.4	1.2	74.1	1	....	2
Stafford	5,454	21	1	4	2	4.4	....	....	....	....	....
Stamford	47,373	101	3	33	39	9.9	1.0	32.0	3	2	16
Stonington	10,930	14	....	10	7	7.7	....	75.7	1	....	5
Stratford	16,768	9	2	2	9	6.4	0.7	114.8	2	1	1
Thompson	5,203	6	1	2	3	6.9	....	137.9	1	....	1
Torrington	24,929	37	....	11	21	10.1	0.5	24.5	1	1	8
Vernon	8,787	12	....	4	9	12.3	1.4	....	....	....	4
Wallingford	12,571	7	....	1	7	6.7	1.9	....	....	....	4
Waterbury	104,047	185	4	49	86	9.9	0.3	92.3	17	2	23
Watertown	7,359	5	1	2	5	8.2	....	137.9	1	....	1
West Hartford	11,562	13	....	3	9	9.3	....	67.8	1	....	4
West Haven	18,334	29	1	8	21	13.7	....	31.5	1	....	3
Westport	5,685	2	....	3	3	4.2	....	....	....	....	1
Wethersfield	5,141	....	....	3	3	7.0	....	307.7	1	....	1
Winchester	9,074	11	....	5	9	11.9	1.3	66.7	1	....	4
Windham	14,391	23	....	10	7	5.8	0.8	....	....	....	4
Windsor	6,584	4	....	3	5	9.1	1.8	....	....	....	....
Towns under 5,000	212,599	153	8	98	193	10.3	0.04	55.1	14	....	89

for the month of August, 1926

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
182	1	1	8	1	......	4	2	4	85	14	133	1	......	19	16	55	13	93	21	3	376	247
1	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	1	......	......	1	......	......	......
2	......	......	......	......	......	......	......	......	2	......	1	......	......	......	......	......	......	1	......	......	......	2
15	1	......	1	......	......	......	......	......	3	1	19	......	......	3	1	5	3	13	2	......	55	13
2	......	......	......	......	......	......	......	......	1	......	4	......	......	......	......	2	......	2	......	......	4	......
......	......	......	1	......	......	......	......	......	......	......	3	......	......	......	......	......	......	1	......	......	5	1
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	2	......	......	6	6
2	......	......	......	......	......	......	......	......	1	......	2	......	......	......	......	1	......	2	......	......	......	1
2	......	......	......	......	......	......	......	......	1	1	1	......	......	......	......	1	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	2	......	1	......	......	......	1
1	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	1
......	......	......	......	......	......	......	......	......	2	......	3	......	......	......	......	......	1	1	......	......	7	2
1	......	......	......	......	......	......	......	......	......	......	1	......	......	2	......	......	......	......	......	......	1	3
3	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......	1
16	......	......	1	......	......	1	......	......	9	2	23	......	......	3	1	8	2	10	2	......	106	36
2	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	1	......	1	......	......	......	1
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	4	......
2	......	......	......	......	......	......	......	......	1	1	3	......	......	......	1	1	......	......	......	......	10	2
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	......	......	......	......	......
5	......	......	1	......	......	......	......	......	3	1	1	1	......	1	3	3	1	3	3	......	18	1
22	......	......	......	......	......	1	......	1	3	3	20	......	......	1	3	8	......	13	4	1	84	31
6	......	......	......	......	......	......	......	......	1	1	3	......	......	2	1	......	......	3	2	......	15	12
2	......	......	......	......	......	......	......	......	2	1	6	......	......	......	......	1	......	3	......	1	9	3
......	......	......	1	......	......	......	......	1	5	......	2	......	......	......	......	3	1	2	......	......	14	5
......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......
2	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	......	......	1	......	......	8	6
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	13	......	1	......	......	1	......	......	......	......	......	......	12	11
2	......	......	......	......	......	1	......	......	1	......	......	......	......	......	......	......	......	......	......	......	......	2
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	1	......
8	......	1	1	......	......	1	1	1	2	1	3	......	......	1	......	......	1	3	1	......	13	5
1	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	......
3	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	......	4	......	......	......	1
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......
5	......	......	......	......	......	......	......	......	......	......	3	......	......	......	......	......	1	2	......	......	6	1
2	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	......	1	......	......	......
1	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	......	1	2	......
18	......	......	1	1	......	......	......	......	2	......	7	......	......	4	......	11	1	2	2	......	32	12
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1	......	......	......	......	......	1
2	......	......	......	......	......	......	......	......	......	......	2	......	......	......	......	1	......	......	......	......	5	3
4	......	......	......	......	......	......	......	......	6	......	3	......	......	......	......	......	......	1	1	......	6	11
......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	1
2	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
1	......	......	......	......	......	......	......	......	1	......	......	......	......	......	1	......	......	1	......	......	4	3
2	......	......	......	......	......	......	......	......	1	......	......	......	......	......	......	......	1	......	......	......	1	......
......	......	......	......	......	......	......	......	......	1	1	1	......	......	......	......	......	......	2	1	......	......	1
34	......	......	1	......	......	......	......	1	22	......	11	......	......	......	5	5	......	17	1	......	48	67

Preventable Diseases

INCIDENCE OF DISEASE FOR SEPTEMBER, 1926

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of September, 1926, with the corresponding month for the years 1921, 1922, 1923, 1924 and 1925.

DISEASE	Average 1921-1925 for Sept.	Mean 1921-1925 for Sept.	1921	1922	1923	1924	1925	1926
Cerebrospinal Meningitis ..	5	4	7	4	4	6	3	6
Diphtheria	141	115	231	178	115	112	67	42
Encephalitis Epidemic	3	3	4	2	3	4	2	4
Measles	34	31	39	50	28	21	31	26
Poliomyelitis	20	18	18	11	24	34	12	11
Scarlet Fever	102	103	103	143	91	103	70	89
Smallpox	1	2	2	2	2	....	....	....
Typhoid Fever	49	38	76	36	58	38	35	29
Tuberculosis Pulmonary	119	121	123	114	121	128	111	127
Whooping Cough	188	171	186	158	170	171	256	110

A comparison of the morbidity on these diseases for the two preceding months, July and August with the September record is as follows:

	July	August	Sept.
Cerebrospinal Meningitis	2	1	6
Diphtheria	47	50	42
Encephalitis Epidemic	2	1	4
Measles	394	121	26
Poliomyelitis	1	5	11
Scarlet Fever	121	53	89
Smallpox	......	......	......
Typhoid Fever	20	31	29
Tuberculosis (pulmonary)	129	120	127
Whooping Cough	146	113	110

Cases of Other Reportable Diseases

Chickenpox	17
Dysentery Bacillary	1
Encephalitis Epidemic	4
German Measles	4
Influenza	3
Malaria	4
Mumps	8
Paratyphoid Fever	5
Septic Sore Throat	16
Gonorrhoea	116
Syphilis	68
Total	246

Cases of Occupational Diseases

Acute Dermatitis	1
Acute Intoxication from Inhaling Fumes	1
Acute Lead Poisoning	1
Dermatitis of Head, Neck, Arms and Hands	1
Dermatitis Venenata	1
Occupational Eczema	1
Pulmonary Tuberculosis	1
Total	7

Cases of Certain Reportable Diseases

September, 1926	Population Est. as of July 1, 1926	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Broncho-Pneumonia	Other Com. Diseases
State Total	1,558,996	29	26	89	110	42	6	11	127	3	51	35	246
NEW HAVEN CO.	**467,392**	**9**	**7**	**14**	**13**	**9**	**1**	**2**	**37**	**1**	**15**	**8**	**85**
New Haven	181,823	4	4	5	7	2		1	17		4	5	42
Waterbury	104,047			1	4	4			6		3	1	17
Meriden (city and town)	36,529		1	5	1				3		4	1	4
Ansonia	19,291	1		1			1	1			2	1	9
West Haven	18,334			1		2			6		1		3
Naugatuck	16,589	4											
Wallingford (town and boro)	12,571								2		1		
Milford	14,073								1				1
Derby	12,732												
Hamden	10,434		1		1					1			5
Branford (town and boro)	7,014		1						1				
Seymour	8,116												1
Towns under 5,000	25,830			1		1			1				3
FAIRFIELD CO.	**371,561**	**4**	**3**	**39**	**23**	**17**	**1**		**27**		**10**	**3**	**29**
Bridgeport	170,717		2	11	5	9	1		18		9	2	17
Stamford (city and town)	47,373	3	1	5	8	3			1				1
Norwalk	29,859			2		1			1				
Danbury (city and town)	21,931			2					1		1		
Greenwich (town and boro)	25,790	1		11	8	1			1				4
Stratford	16,768			3		2			1				
Fairfield	15,041			2									
Shelton	11,398			1		1			1				1
Westport	5,685			1	2								
Towns under 5,000	26,999			1					3			1	6
HARTFORD CO.	**393,501**	**10**	**10**	**17**	**43**	**10**	**1**	**6**	**33**	**2**	**20**	**20**	**114**
Hartford	164,228	2	2	5	14			3	16	1	11	9	90
New Britain	69,482		2	3	23				6	1	1		4
Bristol (city and town)	25,354	4		2				1	4		5	6	7
Manchester	21,505	1		1		7			1			1	1
Enfield	13,039		5			1							
East Hartford	13,950						1						4
Southington (town and boro)	9,727			2		1		1	2		1	1	2
West Hartford	11,562				3	1			2		1	1	
Windsor	6,584								1				
Glastonbury	6,124			2									1
Wethersfield	5,141											1	1
Towns under 5,000	46,805	3	1	2	3			1	1		1	1	4
NEW LONDON CO.	**113,554**	**5**		**6**	**13**				**18**		**5**	**1**	**5**
Norwich (city and town)	30,576			1					3				
New London	29,566	2		5					4			1	1
Stonington (town and boro)	10,930										1		
Groton (town and boro)	11,045	2			1						2		
Towns under 5,000	31,437	1			12				11		2		4
LITCHFIELD CO.	**80,282**		**3**	**6**		**1**			**2**			**1**	**4**
Torrington (town and boro)	24,929			1									
Winchester (inc. Winsted)	9,074								2				4
Plymouth	6,364												
Watertown	7,359												
Towns under 5,000	32,556		3	5		1						1	
WINDHAM CO.	**55,799**	**1**	**3**	**5**	**15**	**2**	**1**	**2**	**3**			**1**	**2**
Windham (inc. Willimantic)	14,391		1	4	4	1						1	
Putnam (city and town)	9,105	1		1	3		1	1	2				1
Plainfield	8,694				3								
Killingly (inc. Danielson)	9,218		2		1								
Thompson	5,203								1				
Towns under 5,000	9,188				4	1		1					1
MIDDLESEX CO.	**49,185**				**3**				**6**			**1**	**5**
Middletown (city and town)	22,891								1				2
Middletown State Hospital									2				
Towns under 5,000	26,291				3				3			1	3
TOLLAND CO.	**27,722**			**2**		**3**	**2**	**1**	**1**		**1**		**2**
Vernon (inc. Rockville)	8,787												1
Stafford (town and boro)	5,154							1	1		1		
Towns under 5,000	13,481			2		3	2						1

DURING THE WINTER MONTHS

GUARD AGAINST EXTREMES

IN TEMPERATURE

68 DEGREES FAHRENHEIT

IS THE IDEAL TEMPERATURE

FOR HOME AND OFFICE

State of Connecticut Health Bulletin

"For a Clean State and a Healthy People"

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*MUNICIPAL REFUSE DISPOSAL FOR THE STATE OF CONNECTICUT

By Warren J. Scott, S. B.

The term "municipal refuse" includes garbage, rubbish and ashes. The main difficulty in obtaining proper refuse disposal in Connecticut is that the general attitude of the average householder and often of the city official is indifference to the complications bound up with the question. This is easily borne out by the carelessness which the householder shows in complying with municipal regulations as to house disposal and the lack of responsibility on the part of the city officials.

In Connecticut, the residents of any city, borough or town may institute a system of garbage collection or disposal, or the law allows the residents of any portion of a town to establish a district for various purposes, among which is the collection of garbage, ashes and all other refuse matter. A law also requires that no municipal refuse disposal plant shall be constructed in Connecticut until the design of the same has been filed with the State Department of Health and approved by said department. Further laws relate to the transportation of refuse from one city or town to another.

About three years ago a limited survey of refuse disposal conditions in the various communities in Connecticut was carried out by the State Department of Health. A state law specifies that the Department may examine all existing or proposed refuse disposal plants and may compel their operation or order their alteration, extension or replacement, when necessary for the protection of the public health. Also, in the Department's capacity as advisor to local health officers, it is occasionally necessary to investigate conditions com-

*Excerpts from address before the New England Health Institute, October 1, 1926.

plained of. In the early part of 1925, the department approved the plans for the refuse incinerator at Stamford, and it is expected that in the next few years changes in methods of disposal will have to be made in several localities. The main factors which are bringing about demands for changes are (1) odors from existing dumps and piggeries or treatment works; (2) increasing density of population so as to render complaints from odors more numerous; (3) difficulties in locating fill areas or piggeries inside the limits of the growing communities served and the refusal of neighboring communities to allow transportation over their borders, and (4) the growing sentiment in many progressive communities that incineration is the only proper method of refuse disposal, which may or may not be true.

The subject of municipal refuse disposal divides itself into (1) house treatment; (2) collection and transportation; (3) disposal. It is of interest that when the question arises as to the desirability or necessity of the introduction of a system of refuse collection and disposal in any community, almost no thought is given to the subject of collection until the whole matter is decided upon. Yet the very great majority of the householders are affected much more by the character and cost of collection than of disposal. Practically all the complaints which are made are as to deficiencies in collection methods. The only complaints which arise from disposal are from near-by residents of the disposal area. The cost of collection is widely influenced by the location of the disposal works and may determine the most economical disposal solution. In other words, the questions of house treatment, collection and transportation, and disposal are so closely bound together that any analysis of the refuse situation should consider all three from the standpoints of health and comfort, of economy, and of convenience to the householder.

House Garbage Treatment. As already intimated, the matter of house treatment is closely affected by the method of disposal. Where garbage is fed to hogs, it must be collected separate from rubbish and ashes. In the survey of 31 Connecticut cities and towns already mentioned, it was found that 23 communities require garbage separated from ashes and rubbish. Seven places do not require separation. In Stamford, where incineration of refuse is practiced, garbage and rubbish are collected together, and ashes and cans are collected separately. Where all refuse is disposed of by dumping, rubbish, ashes, and garbage may be collected together, but better results, even with such a method of disposal, can be obtained by separation and proportioning of the materials.

One requirement for house garbage treatment that should

be universally made is that garbage be kept in covered receptacles, and most communities stipulate that metal cans be used. These are proof against rats and can be easily cleaned. Wooden pails are sometimes employed. No Connecticut communities require that garbage be wrapped in paper by the householder. Many cities in other states require this. Where garbage is fed to hogs or treated in a reduction plant, paper wrappings are bothersome. They will, however, materially add to the cleanliness of the garbage can. Wrapping garbage also tends to reduce the fly nuisance, but if cans are covered and collection is made at frequent intervals, no trouble should occur with flies, as it takes about two weeks for the egg to develop the fly.

Collection and Transportation. In a number of Connecticut communities, two collections are made weekly in residential districts, with daily collections in business districts, both winter and summer. Others specify twice or three times a week all year around, whereas a few have one additional collection per week in the summer. Six communities have only one collection per week in the winter and two in the summer. The larger cities of the state have more frequent collection.

One reason for the widely varying costs of refuse disposal is the wide variation in collection costs. Some communities are filled with hilly districts where hauls are slow and costly. Others are more favorably situated. Some cities cater more to the convenience of the householder, such as by removing from the rear of the houses. In cities which contain many large estates or a scattered population, collection costs are sometimes enormous. Then, of course, a very important consideration is the availability of the treatment plant, with varying lengths of haul necessary.

Classification by Communities. The following twelve communities in Connecticut dispose of garbage by feeding to hogs: Beacon Falls, Hamden, Manchester, Naugatuck, New Britain, New Haven, New London, Thompsonville, Waterbury, West Haven, Willimantic, and Windsor. East Hartford disposes of garbage by sanitary fill. Bridgeport employs reduction, and Stamford uses incineration. The following 12 communities dispose of garbage by dumping or filling: Derby, Greenwich, Groton, Meriden, Middletown, Mystic, Norwalk, Norwich, Plainfield, Rockville, Seymour, and Shelton. Of these, Greenwich has now appropriated money for an incinerator. The remaining four communities reporting—viz., Ansonia, Bristol, Hartford and Wallingford, employ both dumping and feeding to hogs.

Disposal by Dumping and Sanitary Fill. Generally where garbage, rubbish and ashes are all disposed of in a dumping area, the garbage is spread in thin layers, after which it is covered with ashes and borrowed earth. Bulky rubbish not suitable for filling is often burned separately. In the case of many dumps, little trouble is experienced in the colder months when quantities of ashes are available for covering of garbage, and putrefaction with resulting odors is not so prevalent. In hot weather, when often a minimum amount of inert material for cover is available, putrefaction of garbage on dumps may become decidedly objectionable. Care in properly apportioning cover material may often effect great improvement. One of the most frequent and strenuous complaints in regard to dumps in Connecticut has been dump fires. Our experience has shown that one of the first requirements aside from location away from built-up sections is that an adequate water supply, preferably one or more city hydrants be available for putting out fires. Portable rubbish burners for burning large bulky material are desirable. Sufficient quantities of borrowed earth, dirt, building excavation or other inert material, as already mentioned, should be on hand for covering. Preferably completed parts of the dump should be seeded to improve the appearance. Some solution should be kept on hand to destroy fly maggots.

Many dumps become overrun with rats, so as to present a serious problem. The City of Hartford engages under contract a firm which specializes in the destruction of insects and rodents. The City of Middletown recently employed this concern to eliminate a prolific growth of cockroaches in their public dump which began to invade the houses of near-by residents.

At best, dumps are more or less of a nuisance. They should in all cases be provided with careful supervision to properly place material and to avoid fires. Dumping of garbage usually gives rise to trouble and is to be avoided, if possible. The disposal of garbage by sanitary fill is really a variety of dumping but calls for careful proportioning of garbage, ashes and other inert material so as to avoid nuisance. In all cases, ashes must be disposed of by dumping or fill. Rubbish is also disposed of in Connecticut by dumps except in Stamford, where it is incinerated. The dumping of refuse on the banks of streams, more especially as practiced by private individuals, has produced an added burden upon the waters of the State and should be eliminated.

Disposal by Burial. In some Connecticut communities where garbage is ordinarily disposed of by feeding to hogs

on various farms owned by private contractors, it is frequently found that garbage may accumulate too rapidly to be taken care of by the number of hogs available. In such cases, it is often disposed of by plowing into the ground. This is not a very satisfactory method of disposal and may give rise to trouble from odors.

Disposal of garbage by burial is sometimes practiced in small communities but is not used in Connecticut. Garbage should not be buried so deep that air will not reach it and the bacteria present in the upper layers of soil should be available to oxidize the organic matter. From investigations by the Ohio State Department of Health, it was concluded that after two and one-half years, soil could be re-used for burial purposes. It has not been found that garbage is a very good fertilizer and the difficulties have not led to widespread use of the method of disposal by burial.

Disposal by Hog Feeding. Garbage disposal by feeding to hogs has been employed successfully in a number of Connecticut communities, including several of the larger cities. Only one community, New London, has a municipal hog farm. The other communities let out the disposal, and usually the collection, to private contractors. This method of disposal often proves to be the most economical method available. In a recent special report by the Massachusetts Department of Public Health, it is stated in part of the conclusion: "It would seem desirable to continue swine feeding as a method of garbage disposal (in Massachusetts cities and towns) wherever this is possible without the creation of objectionable conditions. The arguments in favor of this are largely economic. However, it is recognized that the danger of creating nuisances by such a method of disposal is increased with the spread of congested areas of population. It is in general not practical to haul garbage more than about 12 to 20 miles by truck. This distance might be extended somewhat by the combined use of truck and railroad."

One objection which is becoming a decided factor in Connecticut in forcing consideration of other methods of disposal than hog feeding is the point raised about available areas in the city or town served. Increasing objection is being manifested to transportation of garbage into other communities due to odors from improper transportation and from insanitary hog farms.

Successful disposal by hog feeding requires that the farm be operated in a sanitary manner, that the garbage be fresh, and that the health of the hogs be maintained.

Disposal by Incineration. Only one incinerator is in use at present in Connecticut which was installed in 1925 for the City of Stamford. This incinerator is of the DeCarie type. It has a rated capacity of 70 tons of garbage and rubbish per day. This material is collected together and the acceptance test specified that the waste material should be in the proportion of about 30 per cent dry to 70 per cent garbage. The refuse from about 30,000 people is handled. An engineer and five assistants are employed on an eight hour basis. The plant was installed at a cost of about $115,000.00 and complaint is made that it is now overloaded and should be increased by purchase of an additional unit. The plant is operated without nuisance and has generally proved satisfactory. Only about 30 tons of coal had to be used for additional fuel in the year 1925, and the entire annual cost was this amount of fuel plus labor, depreciation and interest on investment. Ashes are collected separately and disposed of by dumping.

Advantages claimed for high temperature incineration are that the disposal plant can be located fairly close to built-up sections without odor nuisance, so as to decrease the length of haul, and that it is the most sanitary disposal method known. In comparison with the older method of hog feeding, it is undoubtedly more expensive but other considerations are tending to increase its use.

Disposal by Reduction. Garbage disposal by reduction is employed in only one Connecticut city, which is the City of Bridgeport. This process is a cooking process whereby grease and fertilizing material are recovered. It requires that all garbage be collected separate from ashes and rubbish. The cost of disposal has been fairly low, especially when market values for the by-products have been high. The plant processes, however, are attended by highly objectionable odors in the vicinity of the plant. Work is now under way to install an additional indirect drier unit and a chlorination unit for treatment of the gases. The odors given off are undoubtedly due to a number of various sources some of which can probably be eliminated by improvements in construction and treatment. There is no question, however, that odors from reduction plants are difficult to control, which has generally led to their location away from built-up areas. Experiences in cities using this process have not tended to induce many additional reduction plant installations. Moreover, due to large first cost and necessity for skillful operation, such plants are generally considered impractical for cities with much less than 100,000 population.

Collection of Rubbish and Ashes. Some cities and towns have a system of garbage collection but require the individual householder to contract for disposal of his rubbish and ashes. Others have a clean-up week once or twice a year when the city sends around trucks to collect this material. If the total amount spent by private citizens for disposal of garbage, rubbish and ashes in communities not served by public collection systems were gathered together, it is probable that sufficient funds could be obtained to finance public collection.

Costs and Supervision. As already stated, it is difficult to compare cost figures, since they represent varying degrees of service rendered and widely varying conditions. Some figures for total costs of refuse disposal and collection were obtained in the 1923 survey. These indicate per capita yearly costs as follows, based on rough estimates of populations served: collection of garbage and disposal by hog feeding, 15 to 98 cents; collection of garbage and disposal by dumping, 40 cents to $1.56; collection of garbage and disposal by reduction, 57 cents; collection of both garbage and rubbish and disposal by incineration, $3.00.

The subject of which city official or department should have charge of refuse collection and disposal has been often discussed. There seems to be no question that a department of public works, if available in a city, has more facilities for carrying out the work. Some health departments, however, have done very excellent work. We have found unique situations in the responsibility for refuse disposal in some Connecticut communities. In at least one large city, the supervision of the public refuse dump comes directly under the mayor, and in another place, the city clerk has charge.

Summary. As to the most desirable methods of disposal of garbage, both incineration and hog farms have been successful in Connecticut. Dumping has been generally unsatisfactory and reduction has decided disadvantages. The whole subject of municipal refuse disposal is one deserving of far more consideration than is given to it by the public, both as householders and through their officials.

REDISCOVERING THE CHILD WHO FAILS

W. W. Arrington, A. B., M. S. S.
Division of Mental Hygiene

The teacher-pupil relationship has occasioned much comment of late. Mental hygienists especially have devoted frequent words to the inestimable importance of the teacher in the emotional life of the child. No one realizes better than the worker in the field of mental hygiene the hardships of the average teacher with her large classes and heavy program. At the same time no one better appreciates the teacher's special responsibility for applying the right method at the right time to preserve the child's emotional integrity. It is conceded that lack of understanding is capable of creating peculiarities even in the normal youngster. Naturally, at the hands of a short-sighted teacher, much worse damage may befall the child originally peculiar or unadjusted. Many a child is innocently mistreated by the school from a mental hygiene standpoint but the child who fails academically is perhaps the most common sufferer of all.

School failures are never isolated events; one does well always to seek their cause. Numerous causes suggest themselves, which frequently fall under one of three possibilities. (1) The child may be constitutionally deficient, and therefore, not adaptable to the school routine. (2) He may be preoccupied with an emotional situation at home or elsewhere apart from the school, which offers a compelling distraction. (3) He may be the victim of mishandling in the school room itself. No two of these conditions are mutually exclusive. Indeed, they are oftentimes so closely related that it is not unusual to find a child struggling against all three.

The Defective Child

The psychometrist (the specialist who gives intelligence tests) as she goes about, frequently encounters such anomalies as the child with a five-year old mind in the fourth or fifth grade. Where opportunity classes exist, this type of thing is less common. Its occurrence always indicates helplessness and ignorance on the part of the school authorities. Except in the larger cities, the opportunity class is still a prohibited luxury or an unsold product. The child who fails is simply "passed along." Far too many times there is the law,—formulated on the assumption of equal capacities,—to demand school attendance, but no corresponding provision for the

boy or girl who cannot measure up to the standard selected.

With the widening application of intelligence tests, the public school is becoming sensitized to individual inequalities. The tendency arbitrarily to divide the dull and the bright like goats and sheep is diminishing. The array of intelligence quotients which psychology has developed has introduced the conception of degree in native endowment, so that it becomes natural to think of dullness as graduated. The backward child becomes dull in relation to an average, and more or less dull than somebody else; he ceases to be a separate entity.

The child who is habitually behind the rest or who begins to fail noticeably in the upper grades should receive an intelligence test. He is not necessarily feebleminded. His native ability is perhaps classifiable in the dull, normal or in the borderline group. But in these twilight groups the deficiency is so subtle, and the surface personality often so impressive that a child may easily be accused of laziness. Such a child is likely to be hounded by parents and teachers equally for results of which he is incapable.

There was the case of Joe, a boy of fourteen in the fifth grade. He was an immensely attractive lad. He did not even have the disadvantage of being oversized. Small-boned and short, he looked quite as young as his ten and eleven-year-old classmates. Moreover, he had a personality which conquered on sight. But school was too much for Joe. His was only a ten-year-old mind, as the psychometrist was later able to show. Even at that, he might have completed the fifth grade, but he was handicapped in addition by inability to read. Early in his career Joe had difficulty with his letters. Presumably he became frightened. There was no other reason discoverable in Joe himself, which should have prevented his learning to read. Fear had paralyzed him—the fear that he would be unable to compete with the rest. And, as often happens, his very attitude had translated apprehension into fact. This boy was goaded and coaxed and scolded by turns. His teacher and his principal were certain that he was lazy and stubborn. The family called him "dumbbell."

And what was the result? School became a nightmare. Joe's one idea was escape. He begged, he turned insolent, he fought, he wept—but all to no purpose. And out of the long emotional strain he developed nervous symptoms which threatened his whole future.

It was in the psychometrist and the psychiatrist (the specialist in nervous and mental diseases) that he finally found allies. They demonstrated with their examinations the utter futility of the boy's remaining in school. Work was found which suited his taste and capacity, and Joe began a new

life. The wisdom of the change is attested at the end of a year by the new Joe. The nervous mannerisms are gone. So is the extreme instability,—the lightning shifts of mood which were once so characteristic. A secret affiliation with a disreputable gang has quietly dropped away of its own accord. And Joe, with pardonable pride, tells how much the family need his pay.

Ideally, every school should have at its disposal the services of a trained psychometrist. In Connecticut we can boast no such millenium as yet. However, it is possible to point to schools here and there which have already arranged for psychometric facilities. And to those who have not, the mental health clinic can often be helpful.

The Emotionally Handicapped Child

Emotional conflicts may on the surface simulate real dullness. Many a child of good or average intelligence has been labelled stupid and treated as hopeless for lack of a little study which would uncover problems of unsuspected significance. No psychiatrist can content himself with surface impressions. Nor should a conscientious teacher do so.

David is a case in point. He was in the sixth grade at eleven—exactly where he should be at his age. But the school thought him too dull and slow, immature for his grade. He was the despair of his parents. They shamed him and prodded him. They had him tutored. Nothing resulted. There seemed no hope that he would ever reach college as the family intended. It was just as demotion was being contemplated that the psychiatric clinic was solicited for advice.

A psychometric test was given, the result of which startled all concerned, including David himself. The boy proved to have a mental age of thirteen years plus. His intelligence quotient was 116, the average for the successful college student.

But here was no sufficient explanation for the boy's apparent dullness. Granting that David had become bored and had ceased to make effort, the psychiatrist was still not satisfied. He delved even deeper. What he found was a sensitive boy living in a world of dreams. David had resolutely cut himself off from boys of his age, and had little left in common with them. His waking hours, both in school and outside, were filled with elaborate imaginings. His ambition in life was to become a forest ranger and a hermit.

No child, as the psychiatrist pointed out, deliberately plans such escape from real life without reason. Reality must first be painful and repulsive. And so it was with David. His

secret was simple enough. He had a younger brother, Jack, who was all that he himself missed being. Jack—vivacious, handsome, an easy student and a born leader—had long since filled David with envy and disheartenment. When the boys were together it was Jack who captured attention; David, naturally silent and awkward, passed unnoticed. The older boy began to feel inferior. His sense of inferiority in time extended itself to other boys,—to the school at large; and his thwarted self-respect spent itself in fancy. It was in solitary imaginings that David found happiness, and he began to look forward to complete isolation. Incidentally, he closed a vicious circle about him, for dreaming interfered with school work, and backward school work only heightened the sense of inferiority.

Sometimes it is the presence of an uncongenial stepmother at home that acts as a distracting influence. Sometimes it is discord between parents, disappointment in a childish hero, the shock of initiation into sex affairs—any one of an unlimited series of experiences may set conflicting thoughts to work in the child's mind. Conflicting thoughts, especially if they are deeply tinged with emotion, and confided to no one, assume dangerous proportions and tend to monopolize the foreground of consciousness. Reading, writing and arithmetic have little chance to compete. They steadily recede in importance before the personal problem which has seized the child's whole attention.

The Child Mishandled in School

Diplomacy is a prerequisite in teachers, and never more needed than where failure is involved. Blunt criticism of failure is seldom, if ever, desirable. It is impossible to apply uniform methods with success to an entire class. Every child has his individual peculiarities, his special abilities and disabilities. The successful teacher is the one who studies her children for differences and adapts her program to what she finds.

Public reprimand and punishment may furnish an unhealthy but deep satisfaction to the very child whom they are intended to shame. There is a certain type of youngster who derives a tremendous "kick" from the mere fact of being singled out for attention. The prospect of continued attention, even if it represents disfavor, leads such a child into habitual neglect of work and indirectly into the unfortunate habits of the show-off. In another child the same peremptory dealing may produce not only the wholesome shamefacedness to be expected at the moment but a lasting sense of inferiority. This sense

of inferiority has the power to condition behavior indefinitely and contributes to a permanently shut-in personality. The boy who excels in school work may simply be bidding for the approval of his teacher—a circumstance greatly to be regretted. Many a teacher permits herself to be flattered in such an instance; but the occasion for flattery vanishes when the psychiatrist demonstrates that the teacher has become a substitute for the mother, or that, by smiles of approval in school hours, the boy is seeking to compensate for a peculiarly barren home life in which he is quite ignored.

One of the most common indications of unadjustment in the school child is backwardness in class work. Yet teachers are prone to deal with backwardness as an isolated fact. It would be a sad case if we attacked scarlet fever and measles with skin salves only. We can no more hope to cure school retardation by blame and exhortation. The question is not one of native intelligence merely, nor of effort alone. The intellectually superior child has been shown to be as liable to failure as his defective classmates, when under emotional stress.

Understanding is the first essential. One must enlist the child's confidence, acquire his point of view, and study him as a separate personality. Teachers can accomplish far more than they imagine in this direction. They share with the parent the privilege of close contact with the child and the possibility of exact study. There are, to be sure, limits beyond which the help of a psychiatrist is required. And in baffling cases it is well always to consult the specialist or the Mental Health Clinic.

There are seventeen Mental Health Clinics of various types in Connecticut. These are listed on the next page. Such a list, giving details as to time and place, will be mailed by the State Department of Health upon request.

MENTAL HEALTH CLINICS IN CONNECTICUT

BRIDGEPORT:

Bridgeport Neuropsychiatric Clinic.

Bridgeport Mental Hygiene Clinic (Conducted by Bridgeport Branch of Conn. Society for Mental Hygiene.)

Juvenile Court Clinic.

BRISTOL:

Bristol Mental Health Clinic (Conducted by Conn. State Hospital and Bristol Visiting Nurse Association.)

GREENWICH:

Mental Clinic (Conducted by Blythewood Sanitarium.)

HARTFORD:

Hartford Dispensary Neuropsychiatric Clinic.

Helen Hartley Jenkins Juvenile Clinic.

MIDDLETOWN:

Connecticut State Hospital Clinic.

NEW HAVEN:

New Haven Dispensary Neuropsychiatric Clinic (Conducted by New Haven Branch of Conn. Society for Mental Hygiene.)

New Haven Child Guidance Clinic (Conducted by Conn. Society for Mental Hygiene.)

Yale Psycho-Clinic of Yale University.

NEW LONDON:

Psychoeducational Clinic of New London School System.

NORWICH:

Norwich Neuropsychiatric Clinic (Conducted by Norwich State Hospital and United Workers of Norwich.)

Norwich State Hospital Clinic.

STAMFORD:

Stamford Hospital Neuropsychiatric Clinic.

WATERBURY:

Mental Hygiene Clinic (Conducted by Waterbury Branch of Conn. Society for Mental Hygiene.)

Waterbury Child Guidance Clinic (Conducted by Conn. Society for Mental Hygiene.)

SUGGESTED PROGRAM FOR SCHOOL NURSING IN TOWNS WITH NO SCHOOL PHYSICIAN

Of the 88 towns in the state that have a generalized public health nursing service, 41 are doing school work on a part time basis. In many places this part time service is adequate, for the school enumeration is small, but in other places the nurses have more pupils than they can adequately care for. In the latter case hope is held out that eventually a full time school nurse will be employed.

In planning a school nursing program on a part time basis where such nursing is to be done by the public health nursing association, a definite program should be drawn up by a group consisting of the health officer, the school superintendent or principal and the president or representative of the visiting nurse association. The public health nurse should be present at the conference.

The program should of course be adapted to meet the needs of the schools, insofar as possible, and whether all or part of the suggested program is put in operation depends upon the number of pupils enrolled, the number of schools and the amount of time which the nurse is to give to school nursing.

The following program has been drawn up by this department in response to requests from public health nursing associations which are doing part time school nursing:

Where no school physician is employed, a school nursing program will necessarily be slightly more inclusive than when the nurse works under the direct supervision of a physician. The objectives of such a program together with certain activities appropriately grouped under each main head may be stated as follows:

1. Inspection of pupils for discovery of obvious defects that a nurse is qualified to detect to the end that such defects may be corrected. (The nurse is not qualified by training or permitted by law to conduct a physical examination.)

   a. Individual inspection of all children at beginning of school year and recording defects that require medical advice. This would include assisting the teachers in making eyesight tests and noting findings on the record forms.

   b. Weighing and measuring children during the winter and spring terms and recording results.

   c. Weekly visits to class rooms for the inspection of children referred by teachers.

d. Advising parents to seek medical or dental attention for defects found, such advice to be given both in written reports and on home visits.

e. Finding means of having defects corrected in cases where parents are unable to pay for treatment.

2. Inspection of pupils for the discovery and control of communicable diseases.

a. Looking for evidence of suspected communicable disease during all visits to the school, and inspections of pupils with special attention to children referred by the teachers.

b. In case of an outbreak of communicable disease, daily inspection to detect symptoms of communicable disease, including throat cultures where needed, under the direction of the health officer. It is considered that an outbreak of disease like scarlet fever, for example, can be better controlled by keeping the schools open and making daily inspections than by closing the schools and permitting children to get away from observation and control. Where time is limited such daily inspections may be restricted to pupils referred by the teachers who have been taught to look for significant symptoms. Where there is a suspicion of communicable disease the child should be sent home.

c. Visiting the homes of children absent from school for three days or more with reference to the possible presence of communicable disease and the precautions necessary when the child returns to school.

d. Reporting cases of suspected communicable disease to the school physician or the local health officer as required by Regulation 9, of the State Sanitary Code.

3. Health Instruction.

a. Giving health talks and instruction to the children.

b. Advising teachers in regard to the health educational program.

c. Instructing teachers in school hygiene and in recognition of obvious signs and symptoms of defects and disease.

4. Inspection of premises.

a. Monthly inspection of school premises with reference to sanitary conditions and reporting to the school authorities or health officer as may be indicated by the findings.

5. Submit monthly reports of work done to the school authorities.

NEWS NOTES FROM THE FIELD

Physician Licensed

Harry Franklin Morin, M. D., 72 Front St., Bath, Maine.

Laboratory Approved

The Bridgeport City Department of Health Laboratory which holds a certificate of approval for bacteriological determinations has recently been approved by the Commissioner of Health for the examination of milk. This laboratory is under the supervision of Miss Catherine Tirrell. It is the third laboratory in the state to hold both approval certificates.

Public Health Nursing

Following the plan of previous years, another series of county meetings for public health nurses was arranged for November. These were held at various institutions, Children's Community Center, New Haven; American School for the Deaf; Seaside Sanatorium; and Mansfield State Training School.

The program included a tour of each institution, a talk on the work of each by the superintendent, and a discussion of diphtheria prevention by the director of Preventable Diseases of the State Department of Health. At two of the meetings the laws relating to Widows' Aid and state dependents were discussed by the state agent of the Department of State Agencies and Institutions.

Public Health Instruction

The month of October saw the close of health exhibiting at the agricultural fairs, and while the big white tent has gone into winter quarters the exhibits will still be in use during the year.

The 1926 season rounded up a total of six fairs, two others being eliminated on account of rain. In the fifteen days of exhibiting over twenty-five thousand people were reached. To show their interest in health nearly five thousand of this number attended the movies, over twelve hundred children were weighed and measured, and over seventeen thousand leaflets were carried away.

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF OCTOBER, 1926

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of October, 1926, with the corresponding month for the years 1921, 1922, 1923, 1924 and 1925.

DISEASE	Average 1921-1925 for Oct.	Mean 1921-1925 for Oct.	1921	1922	1923	1924	1925	1926
Cerebrospinal Meningitis	4	4	4	2	8	4	3	3
Diphtheria	243	203	361	354	203	173	126	108
Encephalitis Epidemic	3	5	5	....	2	6	1	2
Measles	143	125	110	215	241	24	125	62
Poliomyelitis	12	13	13	10	17	19	3	9
Scarlet Fever	196	201	186	212	201	247	134	139
Smallpox	1	2	....	....	....	....	....	....
Typhoid Fever	45	42	51	41	60	30	42	18
Tuberculosis Pulmonary	120	122	112	131	129	122	108	112
Whooping Cough	161	161	122	219	100	204	161	134

A comparison of the morbidity on these diseases for the two preceding months, August and September with the October record is as follows:

	August	September	October
Cerebrospinal Meningitis	1	6	3
Diphtheria	50	42	108
Encephalitis Epidemic	1	4	2
Measles	121	26	62
Poliomyelitis	5	11	9
Scarlet Fever	53	89	139
Smallpox	....	....	....
Tvphoid Fever	29	28	18
Tuberculosis Pulmonary	120	127	112
Whooping Cough	113	110	134

Cases of Other Reportable Diseases

Anthrax	1
Chickenpox	164
Conjunctivitis Infectious	2
Encephalitis Epidemic	2
German Measles	7
Influenza	13
Malaria	2
Mumps	14
Paratyphoid Fever	2
Septic Sore Throat	93
Tetanus	2
Trachoma	1
Gonorrhoea	133
Syphilis	66
Total	502

Cases of Occupational Diseases

Eczema	4
Infection of Injury	1
Toxic Conditions	1
Total	6

Cases of Certain Reportable Diseases

October, 1926	Population Est. as of July 1, 1926	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Broncho-Pneumonia	Other Com. Diseases
State Total	1,558,996	18	62	139	134	108	3	9	112	4	75	55	502
NEW HAVEN CO.	**467,392**	**6**	**7**	**50**	**15**	**20**			**48**	**1**	**25**	**10**	**231**
New Haven	181,823	4	2	4	10	3			33	1	7	3	117
Waterbury	104,047			4	1	5			3		4	1	11
Meriden (city and town)	36,529	1	4	15		5			3		7	3	15
Ansonia	19,291			1		4			2		1	1	5
West Haven	18,334				1	1			3		1		5
Naugatuck	16,589	1		1					2				
Wallingford (town and boro)	12,571					2							
Milford	14,073			2	1						2		8
Derby	12,732										1		2
Hamden	10,434		1	9	2						2		34
Branford (town and boro)	7,014												10
Seymour	8,116			13					2				8
Towns under 5,000	25,830			1								2	16
FAIRFIELD CO.	**371,561**	**3**	**8**	**38**	**13**	**30**	**3**	**2**	**15**	**1**	**17**	**5**	**56**
Bridgeport	170,717		6	15		15			9	1	8	2	18
Stamford (city and town)	47,373	1		1	10	11		1					12
Norwalk	29,859	1		2							2		
Danbury (city and town)	21,931	1		4			2				5	1	2
Greenwich (town and boro)	25,790			5	3		1	1	3		1		6
Stratford	16,768			1					1		1	1	
Fairfield	15,041			8									13
Shelton	11,398					1			1				2
Westport	5,685		1										
Towns under 5,000	26,999		1	2		3			1			1	3
HARTFORD CO.	**393,501**	**5**	**2**	**24**	**48**	**45**		**6**	**38**	**2**	**22**	**32**	**150**
Hartford	164,228	1		17	14	12		2	15	1	7	17	89
New Britain	69,482			1	17	1			11		5	6	8
Bristol (city and town)	25,354	2			7			2	5		5		16
Manchester	21,505					18			2	1		1	6
Enfield	13,039		2			6						3	1
East Hartford	13,950	1		1		2					2		2
Southington (town and boro)	9,727			5		4			2		1		15
West Hartford	11,562											1	2
Windsor	6,584				2			1				1	1
Glastonbury	6,124	1				1							1
Wethersfield	5,141							1			2		1
Towns under 5,000	46,805				8	1			3			3	8
NEW LONDON CO.	**113,554**	**3**		**14**	**40**	**2**			**2**		**7**	**2**	**28**
Norwich (city and town)	30,576			1		1						1	
New London	29,566			3	2	1			1		2		17
Stonington (town and boro)	10,930										1		1
Groton (town and boro)	11,045	3			1						1		10
Towns under 5,000	31,437			10	37				1		3	1	
LITCHFIELD CO.	**80,282**			**2**		**1**							**9**
Torrington (town and boro)	24,929												1
Winchester (inc. Winsted)	9,074												1
Plymouth	6,364												
Watertown	7,359												
Towns under 5,000	32,556			2		1							7
WINDHAM CO.	**55,799**		**45**	**11**	**9**	**6**			**2**		**2**	**5**	**4**
Windham (inc. Willimantic)	14,391		1	9	1							5	
Putnam (city and town)	9,105		1	2		5			2				1
Plainfield	8.694												2
Killingly (inc. Danielson)	9.218		40								2		
Thompson	5,203				3	1							
Towns under 5,000	9,188		3		5								1
MIDDLESEX CO.	**49,185**				**1**	**4**		**1**	**5**		**2**		**22**
Middletown (city and town)	22,891					1							2
Middletown State Hospital									4				4
Towns under 5,000	26,294				1	3		1	1		2		16
TOLLAND CO.	**27,722**	**1**			**8**				**2**			**1**	**2**
Vernon (inc. Rockville)	8,787												
Stafford (town and boro)	5,454				2				2			1	
Towns under 5,000	13,481	1			6								2

Laboratories

SUMMARY OF BUREAU ACTIVITIES FOR OCTOBER, 1926

DIAGNOSTIC

	+	—	?	Unclass-ified	Total	
Typhoid	6	139	3	......	148	
Paratyphoid A	......	148	......	......	148	
Paratyphoid B	1	147	......	......	148	
Diphtheria	153	1,757	3	......	1,913	
Diphtheria Virulence	19	16	......	......	35	
Vincent's Angina	10	316	......	......	326	
Haemolytic Streptococci	22	307	......	......	329	
Tuberculosis	20	78	......	......	98	
Syphilis	169	1,625	204	......	1,998	
Gonorrhoea	37	91	......	......	128	
Pneumonia	2	1	......	......	3	
Malaria	......	4	......	......	4	
Rabies	2	4	......	......	6	
Special Specimens	......	19	......	2	21	5,305

CHEMICAL AND BACTERIOLOGICAL

Milk samples	575	
Water samples	460	
Seafood samples	91	
Sewage samples	2	
Clinical thermometers	211	1,339
Total examinations made		6,644

ANOTHER BIG MONTH OF LABORATORY WORK

A total of 6,644 examinations was made in October, 1926. This is the largest number of examinations made for any month of October, with the exception of October, 1925, when a large number of specimens from oyster handlers was included. The amount of work carried on in the Laboratories was very much greater than it would appear from the reports because of the tremendous increase in milk and water specimens. These are types of examinations that are much more time-consuming than most of the other tests made in the Bureau. It is very encouraging to note that local health officers and milk inspectors are making much greater use of the laboratory facilities than at any time in the past.

Vital Statistics

MONTH OF SEPTEMBER

TOTALS TO DATE, FIRST NINE MONTHS, 1926, 1925, 1924

	Births	Birth Rate*	Marriages	Mar. Rate*	Deaths	Death Rate*
1926	21,628	18.5±.1	8,741	7.4±.07	13,818	11.8±.1
1925	22,613	19.7±.1	9,025	7.9±.08	13,224	11.5±.1
1924	24,254	21.5±.1	9,552	8.5±.08	12,743	11.3±.1

*Rate on annual basis per 1,000 population

The totals above are accumulated over the first nine months. An inspection will immediately reveal that the births and birth rates are decreasing very markedly. For example, the rate in 1926 is 3.0 below 1924. When this decrease is applied to the population of the state a decrease of some 4,600 births will result at the end of the year in comparison with 1924.

Last month, for the first eight months the rates for 1926, 1925, 1924 were, respectively, 18.7, 19.8, 21.6. Referring to the rates above, a progressive decrease will be noted in 1926.

The marriage rate is also decreasing. This will of course account for some of the decrease in birth rate. In passing it is interesting to note that the marriage rates in 1926, 1925 and 1924 are almost exactly equal to 0.4 of the corresponding birth rates.

Some lowering of the death rate has been made. In August the accumulated rate for the first eight months was 12.1. The figures above show that it has been reduced to 11.8.

Births

The reported births amount to 2,160, 207 less than the 2,367 reported in 1925 and the birth rate is only 16.6 per 1,000 population. This is by far the lowest rate to appear in the last six years.

Of the 48 towns in the state having populations more than 5,000 19 reported more births in 1926 than in 1925. Only 5 of these have increases of 10 or more, namely:

Bristol	9±12	Norwich	10±10
Hartford	22±24	Winchester	16± 6
New London	12±10		

The increase for Winchester seems to be of significance. The others might arise from the sampling of pure chance.

Stillbirths

There were 83 stillbirths last month among 2,243 total births, or at the rate of 37 per 1,000 total births. Last year there were 63 stillbirths among 2,271 total births or at the rate of 28 per 1,000 total births. This increase of 9 per 1,000 in rate is not of significance.

With regard to sex distribution, there were 47 males and 36 females the sex ratio being 131 males to 100 females. During the year 788 stillbirths have been reported. Of these 788 stillbirths 449 have been males and 339 females, giving a sex ratio of 132 males to 100 females.

A discussion, the sex distribution of stillbirths, has been carried each month so far this year with especial reference to probability. Among the 788 stillbirths the chance of a male has been 449/788 or very nearly 0.57 with the chance of a female being 0.43. Referring these to 1,000 stillbirths there will result 570 ± 28 with 430 ± 18 females. The difference here is 140 ± 33 in favor of the male, exactly the same figures which resulted in last month's analysis. It will be noted that this difference is more than 4 times its standard deviation and hence of significance. By significance is meant the fact that male stillbirths outnumber females by more than a chance variation.

Deaths

The state had 1,226 deaths as compared with 1,289 in 1925. The decrease of 63 will help a little to reduce the excess of deaths piled up in the early months, but it seems inevitable that the state will experience a rise in death rate for the year over 1925. The rate of 9.4 for the month is the lowest to appear in the last six years. The rate has run rather uniformly, which is to be expected, for September is a favorable month in which it is hard to improve over actual conditions. It is in the winter months, which are relatively unfavorable, that savings must be effected if annual mortality is to be reduced.

One fact is worthy of note: for certain communicable diseases, typhoid fever, measles, scarlet fever, whooping cough, diphtheria, pulmonary tuberculosis, cerebrospinal meningitis, poliomyelitis and influenza, the per cent of these deaths to the total mortality was only 5.8 which is much lower than in any of the last six years. These figures appear in the table for six years at the end of this article.

A table will now be given to show the increase or decrease of 1926 with respect to 1925.

Cause of Death	1926	1925	Increase	Decrease
Diseases of the Heart	189±14	183±14	6±19	....
Epidemic Encephalitis	4± 2	2± 1	2± 2	....
Pneumonia Undefined	1± 1	0	1± 1	....
Typhoid Fever	4± 2	4± 2	....	....
Measles	0	0	....	....
Scarlet Fever	1± 1	1± 1	....	....
Whooping Cough	4± 2	7± 3	....	3± 3
Diphtheria	0	5± 2	....	5± 2
Influenza	2± 1	9± 3	....	7± 3
Tuberculosis, Pulmonary ..	61± 8	82± 9	....	21±12
Tuberculosis, Other Forms	5± 2	3± 2	2± 3	....
Cancer	127±11	142±12	....	15±16
Cerebrospinal Meningitis ..	0	2± 1	....	2± 1
Poliomyelitis	0	3± 2	....	3± 2
Pneumonia, Lobar	21± 5	28± 5	....	7± 7
Pneumonia, Broncho	23± 5	27± 5	....	4± 7
Diarrhoea and Enteritis (Under 2)	44± 7	64± 8	....	20±10
Puerperal Diseases	9± 3	9± 3	....	....
Accident	102±10	96±10	6±14	....
Suicide	19± 4	17± 4	2± 6	....
Homicide	3± 2	5± 2	....	2± 3
Other Causes	607±25	600±24	7±34	....
Totals	1,226±35	1,289±36	26	89

There is no increase of moment in the above figures. The decreases for diphtheria, influenza, pulmonary tuberculosis and diarrhoea and enteritis under 2 are significant. Especially gratifying is the **entire absence** of diphtheria deaths. Influenza has also decreased and it is now doubtful if any serious epidemic will occur this year.

The deaths from accidents increased somewhat, but the automobile accident deaths decreased from 35 for 1925 to 32 for this year. The suicidal deaths appear to be running rather higher this year.

FOR SIX YEARS—SEPTEMBER, 1926

CONNECTICUT	1921	1922	1923	1924	1925	1926
BIRTHS *Birth Rate*	2891 24.4	2684 22.2	2618 21.3	2578 20.6	2367 18.6	2160 16.6
MARRIAGES *Marriage Rate*	1316 11.1	1318 10.9	1554 12.6	1352 10.8	1383 10.8	1380 10.6
DEATHS *Death Rate*	1186 10.0	1216 10.1	1220 9.9	1223 9.8	1289 10.1	1226 9.4
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	140 11.8	108 8.9	114 9.3	115 9.4	115 8.9	72 5.8
DEATHS UNDER 1 YEAR *Rate Per 1,000 Births*	194 68.0	171 64.7	195 75.9	177 66.8	176 70.9	175 72.5

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary, Cerebrospinal Meningitis, Poliomyelitis, Influenza.

Births, Marriages and Deaths

Statistics September, 1926	Population Est. as of July 1, 1926 Based on U. S. Census	TOTALS Births	Stillbirths	Marriages	Deaths	DEATH RATES All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	AGE GROUPS Under 1 year	1 to 5 years	65 years and over
State of Connecticut	**1,558,996**	**2160**	**83**	**1380**	**1226**	**9.4**	**0.5**	**72.5**	**175**	**23**	**441**
Ansonia	19,291	12		19	15	9.3	0.6	251.7	6		4
Branford	7,014	13		12	4	6.8		98.3	1		3
Bridgeport	170,717	250	6	122	100	7.0	0.5	47.0	12	1	39
Bristol	25,354	49	2	22	17	8.0	5.7	101.0	5	1	3
Danbury	21,931	48	3	24	31	16.9	0.5	136.8	6		17
Derby	12,732	29	2	13	14	13.1		45.6	2	2	3
East Hartford	13,950	8		20	5	4.3				1	3
Enfield	13,039	25	1	24	7	6.4		85.1	2		4
Fairfield	15,041	10	1	6	7	5.6		133.3	2		2
Glastonbury	6,121	5	1	4							
Greenwich	25,790	43	3	49	29	13.5	5.1	78.7	3		6
Groton	11,045	6		5	3	3.3		220.2	2		1
Hamden	10,434	10	3	11	10	11.5		214.2	3		2
Hartford	164,228	312	14	171	175	12.8	0.4	127.6	42	5	44
Killingly	9,218	10		11	8	10.4	1.3	76.9	1		3
Manchester	21,595	29	2	16	14	7.8				1	5
Meriden	36,529	47	1	21	39	12.8	0.9	79.6	5		17
Middletown	22,891	30	3	25	42	22.0		61.9	3		16
Milford	14,073										
Naugatuck	16,589	15		12	4	2.9	1.4			1	1
New Britain	69,482	96	7	76	33	5.7		101.8	14	1	4
New Haven	181,823	310	6	189	154	10.2	0.5	47.1	15	3	54
New London	29,566	58	4	29	34	13.8	2.8	80.8	5		10
Norwalk	29,859	54	1	31	32	12.9	0.8	37.3	2		16
Norwich	30,576	54		30	31	12.2	0.8	77.9	5		8
Plainfield	8,694	12	1	9	5	6.9	1.4				2
Plymouth	6,364	7	1	1	2	3.8					1
Putnam	9,105	23		13	11	14.5	1.3	60.9	1		4
Seymour	8,116	3		2	3	4.4					2
Shelton	11,398	7		6	14	14.7					3
Southington	9,727	[illegible]		12	7	8.6	1.2	74.1	1	1	3
Stafford	5,454	14		8	6	13.2	1.9	67.0	1		3
Stamford	47,373	89	5	58	37	9.4		53.3	5	2	12
Stonington	10,930	3		6	13	14.3					8
Stratford	16,768	13		7	5	3.6	0.7	57.4	1		3
Thompson	5,203	4		6	3	6.9					1
Torrington	24,929	33	2	17	16	7.7	0.5	49.1	2	1	5
Vernon	8,787	12		9							
Wallingford	12,571	3	1	3	4	3.8					3
Waterbury	101,017	185	3	75	60	6.9	0.7	38.0	7	1	15
Watertown	7,359	5		6	5	8.2					3
West Hartford	11,562	10	1	11	9	9.3	1.0	135.5	2		2
West Haven	18,334	19		14	20	13.1	0.7				9
Westport	5,685	4		4	9	18.9					4
Wethersfield	5,141	3		6	1	2.3		307.7	1		
Winchester	9,074	25		5	11	14.5		133.3	2		4
Windham	11,391				13	10.8	0.8				3
Windsor	6,584	2		2	7	12.8		137.9	1		5
Towns under 5,000	212,599	154	6	158	157	8.9	0.3	58.9	15	2	81

for the month of September, 1926

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
189	**4**	**1**	**4**	......	**1**	**4**	......	**2**	**61**	**5**	**127**	......	......	**21**	**23**	**44**	**9**	**102**	**19**	**3**	**477**	**231**
2									1					1	1	1			1			2
2																						1
14									5		9			2	3	2		12	1		43	15
2									1		1					2		2			4	1
6									1		3			2				1			11	5
											2			2				3	1		10	8
1											1					2						1
1										1	1					1						1
6									1	1	1						1	3			14	5
																		2				
1											2				1			3				1
24	2		1			2		1	4	1	20			4	6	12	2	16	1	1	104	36
2									1		1							1			2	
1											1				1			2			9	2
1			1						1		4			1		2		5			13	4
6											2			3	1	1		5	1		31	28
																		2				1
5			1			1		1			2					6		2			9	4
30									5		21				7	4	2	11	1		73	24
9									1		4							3			13	8
3									2		7			1				3	2	1	5	4
1						1			5		3					2			2		11	6
1									1													1
1											1											
1			1						1		1			1							6	3
1																						
2									10		1										10	10
1																2		1				
																	1				4	
3	2										5			1			1	1	2		20	8
5											3							1			1	
1																						
											1											
2									1	1	1					1		1	1		2	
																					2	
6									3		4			2		2	1	3	2	1	31	6
1											1							1				
1									1		1										5	2
2									4		3			1				1	1		5	5
4											1										2	1
1											4						1				7	3
3					1				1									5			6	3
3											1					1						
33		1							11	1	14				3	3		12	3		24	32

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CHRISTMAS PRESENT

TO YOUR FAMILY

WILL BE

A HEALTH EXAMINATION

FOR ONE AND ALL

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STANLEY H. OSBORN, M. D., C. P. H., Commissioner

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BUREAU OF CHILD HYGIENE

Division of Mouth Hygiene

BUREAU OF PUBLIC HEALTH NURSING

BUREAU OF PUBLIC HEALTH INSTRUCTION

BUREAU OF LABORATORIES

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STATE DEPARTMENT OF HEALTH

WHAT YOU SHOULD KNOW ABOUT YOUR STATE DEPARTMENT OF HEALTH

In 1917 the State Board of Health which had been established in 1878 was reorganized to become the Connecticut State Department of Health. This was by legislative action. At the same time, Public Acts, Rev., 1918, Sec. 2360, the department was placed under the administrative head of a commissioner of health. The public health council was established and the six members were appointed by the governor for a term of six years, two new ones being appointed each successive biennial.

The establishment of bureaus in the state department of health was authorized in Public Acts, Rev., 1918, Sec., 2365, amended in 1919, Chapter 248, and in 1923, Chapter 94 as follows:—"Said department shall maintain laboratories and bureaus of vital statistics, preventable diseases, sanitary engineering, child hygiene, public health nursing and public health instruction." Beside these bureaus the department maintains, as well, divisions of medical registration, of supplies, of accounting, of venereal diseases, of mental hygiene, of occupational diseases and of mouth hygiene or dental hygiene.

It will be of interest to people in the state who are, perhaps, familiar with the department of health through the activities of one bureau only, to know how the various bureaus and divisions function, to the end that Connecticut may be "a clean state and a healthy people."

Bureau of Vital Statistics

The work of collecting vital statistics for the state has continued since 1878 when this work was placed under the supervision of the State Board of Health. The Bureau of Vital Statistics was established in 1917, and is now charged with the health bookkeeping of the state of Connecticut, each

town and city registrar since 1897 having been required to send in to the state copies of the reports of births, deaths and marriages.

When these town reports, copies of originals recorded locally, arrive each month, a staff of nine clerks is ready to record examine, query, code and transcribe the information given to specially prepared cards. The statistician then tabulates the results making a summary of births, deaths and marriages, the infant deaths per 1,000 births, and deaths per age groups and for certain diseases. This monthly statistical table is then interpreted in the light of previous monthly figures or yearly rates and the whole presented in the monthly health bulletin. Thus each town with a population of over 5,000 can compare at a glance its local showing with that of other towns in the state. Figures for smaller towns also are compiled, but these are tabulated in composite figures for all towns under 5,000.

The original cards sent in by the registrars are finally filed alphabetically, according to year, in a special vault at the State Department of Health. Before this can be done, however, the information on each must be copied on duplicate cards and sent to the United States Bureau of Census in Washington where, with other state reports, they make up the census reports or national summaries.

The original records are carefully guarded as they are often called upon to form legal evidence for property rights, inheritance bequests, entrance to school, marriage, passports for foreign travel, or state aid. Certified copies are often requested for such purposes. The Bureau of Vital Statistics has now under its care approximately 1,600,000 such cards.

Bureau of Preventable Diseases

Preventing the preventable diseases is the function of the Bureau of Preventable Diseases. To accomplish this purpose the bureau keeps in close touch with disease conditions throughout the state and stands ready to assist any community upon the request of the local health officer.

The bureau receives information concerning disease conditions in the form of reports from local health officers. Physicians, parents, teachers, public health nurses, superintendents of institutions and householders who have knowledge of the presence of disease are required to report to the health officer. These reports are transmitted by the health officer to the State Department of Health where they are tabulated and studied by the Bureau of Preventable Diseases as a means of keeping in touch with disease conditions.

The bureau checks reports of deaths from the communicable diseases and reports from the laboratory indicating the possible presence of disease. Information concerning these reports not recorded as cases is furnished local health officers in order that they may check up the reporting of cases by physicians. By this method, knowledge of disease conditions is kept more complete.

The information gathered in this way is published in the weekly bulletin, the monthly bulletin and the annual report of the department for the information of health officers and others interested in disease prevention. Special articles are prepared for the weekly and monthly bulletins of the department giving information concerning various phases of disease prevention. These are for the information of the public because it is realized that the public must be informed in order to do their part in preventing the spread of disease.

The chief work of the bureau is carried on in the field where investigations are made of disease conditions, the sources of infection sought out and measures taken to prevent further spread of disease. In carrying on this work representatives of the bureau travel to all parts of the state. Much traveling is also done in connection with lectures on preventable diseases given by the bureau representatives.

Division of Venereal Diseases

Cases of venereal diseases are reported daily to the State Department of Health. Reporting of these differs from that of other communicable diseases only by the substitution of a number for the name of the patient. This is to encourage more general reporting of the disease by all physicians in the state. A monthly check system by which follow-up letters are sent to those physicians who fail to report cases, shown by comparing the daily laboratory reports with the health officers' reports, has done much to encourage better reporting.

For the treatment of venereal disease patients seven clinics are maintained, by the cities of Bridgeport, Hartford, New Haven, New London, Stamford, Norwich and Waterbury. At sixteen towns in the state where the maintenance of clinics seem inadvisable on account of their cost, treatment stations are in operation. Treatment stations are at Bristol, Colchester, Darien, Farmington, Meriden, Middletown, Naugatuck, New Britain, Putnam, South Norwalk, South Manchester, Torrington, Wallingford, Willimantic, Winsted and Norwich.

The State Department of Health supplies such clinics and treatment stations, with arsphenamine and also assists the state

institutions by supplying drugs, consultations on venereal disease problems, and laboratory assistance in the routine examination of inmates.

A field worker is available from the Division of Venereal Diseases to visit clinics and treatment stations, assist in controlling refractory patients, and investigate cases to encourage the continuation of required treatment.

Division of Mental Hygiene

The function of this division is to spread knowledge of mental hygiene, to encourage increased facilities for the detection and care of incipient mental or nervous diseases and behavior problems, thus checking the development of more serious mental disorders, and to anticipate by preventive methods the appearance of even the mild nervous disabilities.

Annual surveys have been made at thirteen institutions for nervous and mental patients, covering facilities and distribution of patients by diagnosis (this including the gathering of first statistics). Monthly census reports are received from a group of ten neuropsychiatric institutions and summarized for the United States Public Health Service. Studies of the children in four county temporary homes have been made for the State Bureau of Child Welfare through the cooperation of two child welfare organizations, after which recommendations and advice were given for the placement of these children according to mental traits. Assistance has been given organizations and individuals in a diagnosis of special mental cases, and mental tests for retarded children to aid teachers in formulating the best educational policies for such children.

To aid in progressive mental health work two psychiatric social workers, one full and one part time, are available for the organization and operation of mental health clinics. With the cooperation of the state hospitals, two clinics have been permanently established in cities of twenty-five and thirty thousand population, Bristol and Norwich, and a third in progress in Meriden. Assistance is provided each clinic for a demonstration period of varying length until such time as the local community is able to assume full responsibility.

There are in the state seventeen mental health clinics carried on by local health organizations. Close contact is maintained with these clinics, advice given when needed, and their monthly reports kept on file and studied in connection with state mental health work. Such clinics have done much to help communities cope with problems which they have previously been unable to handle. Many cases in such clinics are referred by juvenile courts or by prosecuting attorneys,

many are adults whose future is threatened by an unhealthy mental outlook, an increasing number are children representing either behavior problems, a lack of understanding on the part of the parents, or an uncongenial and harmful environment. Such mental health clinics are often the means of checking criminal careers, or averting mental collapse at a later period.

Frequent articles on mental hygiene and the distribution of approved literature aim to keep the public well informed so that there may be a general improvement in mental health.

Bureau of Laboratories

The Laboratory of the State Board of Health was established in 1906 and located at Middletown. Later it was moved to New Haven, and in 1917 became the Bureau of Laboratories under the newly organized State Department of Health. Still another move was made when, in 1924, the work was transferred to Hartford where it could more closely cooperate with the other bureaus of the State Department of Health as well as other state departments, boards and commissions.

The function of the laboratory is to assist local health officers and physicians in the diagnosis of disease, and the search for disease carriers; to cooperate with the State Commissioner on Domestic Animals through its diagnosis of rabies and glanders; through its examination of milk samples to assist the State Dairy and Food Commissioner in the control of the milk supply; and to further the work in sanitary engineering in the state by examining samples of water, ice, sewage and shellfish.

Specimens for diagnosis are sent in by physicians and health officers throughout the state, sterile containers being furnished for this purpose by the bureau. Special precautions have been taken in securing these specimens in order to facilitate the search at the laboratory for such suspected diseases as typhoid, diphtheria, tuberculosis, syphilis, gonorrhoea, pneumonia and malaria. After being carefully recorded for identification specimens each go through a specific routine analysis which results in a final report of positive, negative, or questionable. At the close of each day a balance is struck between specimens received and reports sent out. Reports are mailed to physicians sending in the specimens except in the case of a positive finding of diphtheria or rabies, when they are telephoned. Copies are also sent to the local health officers. Cases of rabies are reported at once to the Commissioner on Domestic Animals.

Milk samples are not only examined bacteriologically, but for butter fat content and evidence of watering. Reports on these are sent to the State Dairy and Food Commissioner, the county health officers, and the local health officers.

Water samples are sent in by the local health officers and water officials. These are examined both chemically and for bacteria, the results giving presumptive evidence of pollution, the extent of this being interpreted in the light of the information as to the source of the water from which samples were taken.

In 1922 the laboratory began routine examination of clinical thermometers, in order to permit commercial firms to sell thermometers in Connecticut. By this procedure, if 95 per cent of the clinical thermometers submitted by a given firm are found to conform to the standards, a seal number is allotted to that firm, or permission to sell in this state.

The Bureau of Laboratories is located at 247 Pearl Street, Hartford, where a staff of 24 carry on the work.

Bureau of Sanitary Engineering

The work of this bureau consists of sanitary supervision of public water supplies, public sewage treatment plants, shellfish areas and production methods, and ice supplies; inspection of swimming pools, slaughter houses, summer camps and boarding houses, and roadside water supplies; investigations of questions of private water supply, sewage disposal and nuisances in cooperation with the local health officers.

Power to secure safe public water supplies in the state is vested in the State Department of Health by Section 2528 of the General Statutes, Revision of 1918, "The State Department of Health shall have supervision over all matters concerning the purity of any source of water or ice supply used by any municipality, public institution, or water or ice company for obtaining water or ice," and Revision 1918, Section 2530 "..........shall investigate any system of water supply...... and if it finds any pollution, which in its judgment is prejudicial to public health, it shall notify the owner of such system of water supply, or person or corporation causing or permitting such pollution..........and shall make such orders as it shall deem necessary to protect such water supply ....and render such water safe for domestic use."

The watersheds of public water supplies in the state are regularly inspected, as well as all water-treatment plants. At present, the bureau is devoting a large amount of time to elimination of cross connections between public supplies and

impure secondary supplies for industrial or fire protection purposes, according to the Sanitary Code regulations. A careful check on the purity of water supplies is kept through the system of daily reporting to this bureau, all water examinations being made at the Bureau of Laboratories.

All new municipal sewage treatment and refuse disposal plants must be approved by the State Department of Health, and plans for such construction are reviewed in this bureau.

In 1924 regulations were passed by the Public Health Council for the construction and sanitary maintenance of slaughter houses. A survey of slaughter houses revealed conditions that were far from sanitary, showed the need for a rigid enforcement of these regulations and led to the construction of many new slaughter houses and such alterations as to bring others up to the standard. Supervision and inspection of slaughter houses continue.

Surveys of camp and summer boarding house sanitation, of water supply and sewage disposal facilities of state institutions and rural schools, of indoor swimming pools and of public wells and springs are made, and advice is rendered as to the best means of improving conditions to meet the required standards. Those roadside water supplies that are found safe for drinking purposes are now posted "Safe". Such supplies are re-examined and posted each year.

The public is assured safe Connecticut oysters through a rigid inspection and certification of oyster beds, and careful supervision of oyster handling. This work is carried out under Section 2694 of the General Statutes, Revision of 1918, and Sanitary Code regulations.

Bureau of Child Hygiene

This bureau was established in 1919 to promote in the state the general health of children, and teach mothers how to care for themselves and their infants to the end that infant and maternal mortality may be lowered.

The principal activity of this bureau is the establishment and maintenance of well child conferences in cooperation with local communities. Where local interest has been aroused for the establishment of such a conference, through talks and conferences and general educational appeals, assistance is given in its organization. The Bureau of Child Hygiene explains the purpose of such conferences to the health officer and all the local physicians, and secures their cooperation to the extent of professional service at regular periods. Local committees are then formed to select a suitable location, round up the mothers of small children and assist in the operation of the conference month by month.

These conferences are held monthly in some central location, announcement being made by posters, press articles, pulpit notices and personal appeal. New children are given a complete physical examination at which time any defects found are called to the attention of the mother who is advised to get in touch with her local physician in regard to them. Mothers are urged to appear monthly with their children so that health progress may be noted and any deviation from the normal checked before it has a chance to develop into a serious defect. There are now over fifty such conferences being conducted under the supervision of the Bureau of Child Hygiene. In isolated sections where travel is difficult in the winter some conferences are held only during the summer months, it is encouraging to note that many of these communities are making an effort to continue these during the year.

The follow-up is an important phase of the work and for this purpose three state child hygiene nurses are located one each in Winsted, Middletown and Willimantic to make home visits in their respective districts. They also assist at the conferences whenever they are needed, and in all towns where there is no public health nurse. In towns with no medical service, a physician from the Bureau of Child Hygiene is in attendance for the physical examinations.

A birth certificate is sent to all mothers of children whose birth records are received by the Department of Health. With this certificate is sent a pamphlet on infant care and diphtheria immunization leaflets. Prenatal and child care bulletins are also available for general distribution. Frequent talks are given to instruct groups on the health care of children and to encourage leaders to organize local conferences.

Among others on the bureau staff is a supervisor of midwives. She supervises the work of all licensed midwives, the aim being to keep their work up to high standard.

The Division of Mouth Hygiene is included in the Bureau of Child Hygiene and has a part time dentist and a dental hygienist. The dental hygienist instructs mothers at the conferences in mouth hygiene for their children and points out its importance in the prenatal period. Prophylaxis and group talks to school children are also given on the proper care of the teeth.

Bureau of Public Health Nursing

The objective of this bureau is to secure for the state a standard public health nursing service which is administered by a local group organized for this purpose in each town. This is accomplished through three lines of activity, assisting

towns to organize, giving advice and assistance to public health nurses and boards of directors in their special problems, setting high standards for such work and urging conformance to it.

In eight years public health nursing service has more than doubled in Connecticut, there now being 90 towns with generalized public health nursing service. Assistance given in the formation of nursing associations include conferences with prospective leaders to explain the work, advice about finances, help with organization plans, and talks to inform the public of the nature and importance of the work.

Close contact is made with the public health nurses, so that the work may grow normally and develop to the best interest of the town. Frequent nursing bulletins are published so that public health nurses may be kept informed on the accepted methods of disease control.

To maintain the standards only registered nurses with special public health training are recommended for positions. Assistance is given in placing new nurses and in filling vacancies.

County meetings are held periodically at which standards and accepted methods of procedure and technique are discussed. Frequently these are held at state institutions so that nurses may become familiar with and learn to make use of such institutions for the benefit of their communities. The importance of records is given special emphasis in order to teach public health nurses how to evaluate nursing service, and interpret the results to the public.

Bureau of Public Health Instruction

This bureau aims to keep the public well informed on health matters so that it may be familiar with the latest methods of disease control, most effective sanitary measures, and the newer ideas on child hygiene, prenatal care, and promotion of adult health.

Various leaflets on these subjects prepared in each bureau are available for general distribution. The Bureau of Public Health Instruction keeps in touch with organizations and groups in the state so that avenues for such instruction of the general public may be kept open. At the county fairs alone upwards of fifty thousand of these leaflets are distributed each year. Each health officer is kept supplied with these for general use in his community.

Another important avenue of instruction is the weekly and monthly health bulletins. These are sent to health officers, physicians, public health nurses, hospitals, legislators, the press, and other leaders who are in a position to promote

health. These publications not only sum up the vital statistics of the state and the incidence of disease, but carry health articles of popular and semi-technical nature which such leaders make use of to enlighten their community. Many articles are copied by the press of the state thus instructing the public directly.

Groups and health leaders are making increasing use of such health illustrative material as moving picture films, stereopticon slides, health posters and exhibits. The work of this bureau is to keep such material up to date, and to keep in touch with the local communities in order to encourage a wider use of its health service as well as to provide service which adequately meets the local needs.

The directors of the different bureaus are ready to give health talks on their respective subjects, in fact, this forms a large part of the educational phase of the department. The Bureau of Public Health Instruction assists in this by referring calls for such talks and advertising this service in its bulletin "Health Service", which also carries a description of its moving picture films and a list of health leaflets. Arrangements have been made whereby the staff have given courses of lectures in public health to the nurses in several hospital training schools.

Health leaders are more and more recognizing the value of exhibits in spreading health information. An extensive health exhibit is sent to many of the county fairs each fall. This not only reaches the public directly but often leads to new contacts for future service. Exhibits are also installed for special occasions such as the exhibit which was prepared for display in the Connecticut Building at the Sesqui Centennial. Exhibit material is often loaned to local communities.

Health leaders are kept informed on nutrition matters by this bureau through articles in the regular bulletins, nutrition leaflets, a nutrition handbook has been prepared, and nutrition has an important place in the state health exhibits. Frequent nutrition talks are given to lay groups and short courses to nursing associations.

FIELD NOTES

Physician Licensed. Peter F. Piasta, M. D., 6 Chestnut Street, Webster, Mass., was licensed to practice medicine in Connecticut.

Health Officers Appointed. The Litchfield County Health Officer has appointed James W. Flynn to act as health officer of Bethlehem during the absence of the regular health officer.

The New Haven County Health Officer has appointed Mrs. Rose Klitka as temporary health officer of Middlebury during the illness of the health officer, Edmund Russell, M. D.

Visit of Health Official. On November 26, Dr. George H. Coombs of the Maine State Department of Health visited the department, devoting his time largely to communicable disease problems and the work of the laboratory.

Laboratories Approved. Under Chapter 101, Section 2482 of the General Statutes a certificate of approval was issued to the Waterbury City Department of Health Laboratory for the bacteriological examination of milk and cream. This was issued in the name of Miss Antonia DiNapoli, technician.

A certificate was issued to the laboratory of the City Department of Health of Middletown, making it an approved laboratory for the examination of milk under the direction of Jessie W. Fisher, M. D. This laboratory has been for some time an approved laboratory under the Sanitary Code for the examination of diagnostic bacteriological specimens and now has this additional approval.

Other City Department of Health laboratories now holding both certificates are Bridgeport, Middletown and Hartford.

Health Exhibit at Sesqui Centennial. With the official closing of the Sesqui Centennial Exposition at Philadelphia, the exhibits in the Connecticut Building have been dismantled.

Among the other state department exhibits the health exhibit showing the activities of the State Department of Health was given a prominent place in the Connecticut Building. All these exhibits are now on the way back to this state where they will doubtless be displayed for the benefit of Connecticut people.

That the exhibit has been a success is shown by the large numbers who have visited it, numerous requests for leaflets and information, and favorable comments of visitors. The Connecticut Building has attracted large crowds at all times. This is shown by the thousands of names recorded in the registers, six of which have been filled, or approximately 150,000 people. This is estimated as less than half the actual number of visitors, however, since only a small portion registered.

Vital Statistics

MONTH OF OCTOBER

TOTALS TO DATE, FIRST NINE MONTHS, 1926, 1925, 1924

	Births	Birth Rate*	Marriages	Mar. Rate*	Deaths	Death Rate*
1926	23,848	18.3±.1	10,104	7.8±.08	15,163	11.7±.1
1925	25,107	19.7±.1	10,507	8.2±.08	14,674	11.5±.1
1924	26,780	21.4±.1	10,967	8.7±.08	14,160	11.2±.1

*Rate on annual basis per 1,000 population

The figures above show the accumulated totals for the events listed for the first ten months over the last three years. The same general characteristics have held in each month. The birth rate is decreasing, as is the marriage rate, and the death rate is increasing somewhat.

With respect to the death rate it is interesting to note that the final death rate for the year 1924 was 11.2, in 1925 it was 11.6, in each case being 0.1 of a point more than the ten months figure. This would suggest a final rate of 11.8 for 1926.

Births

During the month 2,220 births were reported, a decrease of 274 below the 2,494 recorded in 1925. This gives a birth rate, on an annual basis, of 17.1. While this is a very low rate it is not as low as the 16.6 which appears as the monthly birth rate for September.

Fairly large fluctuations in the actual numbers of births may be expected from year to year when the year is considered by monthly divisions. By fairly large is meant some 5 per cent in the series of births, this 5 per cent being the maximum variation which could arise from pure chance. Thus a variation of about 100 to 125 in numbers might be expected.

For rates the same percentage variation is to be expected and this will give a fluctuation of about one whole point in rate. Since 1921, when the birth rate was 22.6 for the month, to 1926, the decrease has been 5.5 points. No such decrease as this is to be accounted for as a chance phenomenon.

The towns of 5,000 inhabitants or over in the state number 48. Of these towns 22 reported more births for the month this year than in 1925, but for only three did an increase of 10 or more appear. These three towns are:

Manchester 12±8 Stamford 11±14
Waterbury 13±18

The figures following these towns give the actual increase and the chance variation of the increase, which may be regarded as the expected increase. Thus, for Manchester the increase was 12 where 8 might have been expected. Any increase or decrease to be significant must be at least twice its chance fluctuation, and from this it is apparent that none of the above increases is of significance.

With regard to the stillbirths, 85 were reported, which is at the rate of 37±4 per 1,000 total births. A year ago there were 97 stillbirths, giving a rate of 37±4, exactly the same as for 1926.

The sex distribution of the stillbirths for the month is worthy of note. There were 44 males and 41 female stillbirths. The sex ratio here is 107 males to 100 females and this is remarkably low, as a sex ratio of 140 to 100 is not unusual. At present, the sex distribution of the living births is not available but it would be interesting to examine whether the females were considerably more than the males.

Deaths

The month of October was the most favorable to appear since 1921, excepting 1923. The death rate was 10.4 as compared with 11.4 in 1925. In actual numbers, this year 1,345 deaths were reported as against 1,450 in 1925, a decrease of 105.

However, the rates for the month over the past six years are most interesting due to their regularity. The mean death rate is 10.9 with a standard deviation, or fluctuation about the mean of only 0.4. This is a low value for the standard deviation. While it was not mentioned in the discussion of birth rates above, the standard deviation of that series is 1.7 about a mean of 20.1, a scattering of births of about four times the value of the scatter of the deaths. Again, with regard to the series of death rates, the chance variation of the entire series is about 0.3, which, when compared with the actual dispersion of 0.4 gives a Lexian ratio of 1.3, which is low.

The usual table comparing 1926 and 1925 with respect to certain diseases follows:

Cause of Death	1926	1925	Increase	Decrease
Disease of the Heart	214±15	229±15	....	15±21
Epidemic Encephalitis	0	0	....	....
Pneumonia Undefined	1± 1	0	1± 1	....
Typhoid Fever	1± 1	4± 2	....	3± 2
Measles	0	1± 1	....	1± 1
Scarlet Fever	2± 1	1± 1	1± 2	....
Whooping Cough	1± 1	10± 3	....	9± 3
Diphtheria	6± 2	11± 3	....	5± 4
Influenza	17± 4	14± 4	3± 6	....
Tuberculosis, Pulmonary ..	87± 9	60± 8	27±12	....
Tuberculosis, Other Forms	10± 3	11± 3	....	1± 5
Cancer	145±12	143±12	2±17	....
Cerebrospinal Meningitis ..	1± 1	1± 1	....	....
Poliomyelitis	2± 1	2± 1	....	....
Pneumonia, Lobar	34± 6	65± 8	....	31±10
Pneumonia, Broncho	38± 6	62± 8	....	24±10
Diarrhoea and Enteritis Under 2	30± 5	25± 5	5± 7	....
Puerperal Diseases	10± 3	18± 4	....	8± 5
Accident	97±10	87± 9	10±14	....
Suicide	20± 4	16± 4	4± 6	....
Homicide	2± 1	2± 1	....	....
Other Causes	627±25	688±26	....	61±36
Totals	1,345±37	1,450±38	53	158

One increase is worthy of note, namely that of pulmonary tuberculosis. Just why this significant increase should appear is not easy to explain. The other items in the column of increases are of no moment.

With a decrease of 105 in the total number of deaths it might be expected that the column of decreases would contain some items of significance, and this is the case. There was a significant decrease in the number of deaths due to whooping cough. But perhaps of more interest is the decrease in lobar and broncho pneumonia. It is to be hoped that this is an index of a decrease in the pneumonias through the season when it is most prevalent.

The deaths due to accident increased somewhat. Included in this total are deaths from automobile accidents which were 32 this year as compared with 36 in 1925.

As it is quite generally the case, October was a month of more than the average number of marriages. However, the number of marriages performed was 119 below the numbers of 1925, and the total of 1,363 is the lowest to appear in the past six years.

The actual number of infant deaths is considerably lower than any number over the period since 1921, but owing to the decreased number of births, the infant mortality rate, figures per 1,000 living births, is not the lowest. However, it is encouragingly low and was bettered only in 1924.

FOR SIX YEARS—OCTOBER, 1926

CONNECTICUT	1921	1922	1923	1924	1925	1926
BIRTHS *Birth Rate*	2666 22.6	2554 21.2	2447 19.9	2526 20.2	2494 19.6	2220 17.1
MARRIAGES *Marriage Rate*	1440 12.2	1445 12.0	1514 12.3	1415 11.3	1482 11.6	1363 10.5
DEATHS *Death Rate*	1300 11.0	1323 11.0	1262 10.3	1417 11.3	1450 11.4	1345 10.4
COMMUNICABLE DIS.* DEATHS *Per Cent to Total Deaths*	144 11.1	143 10.8	123 9.7	135 9.5	104 7.2	118 8.8
DEATHS UNDER 1 YEAR *Rate Per 1,000 Births*	212 74.6	184 70.6	170 66.5	165 65.5	191 76.9	154 65.9

*Includes Typhoid Fever, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Tuberculosis Pulmonary. Cerebrospinal Meningitis, Poliomyelitis, Influenza.

Statistics October, 1926

	Population Est. as of July 1, 1926 Based on U. S. Census	TOTALS				DEATH RATES			AGE GROUPS		
		Births	Stillbirths	Marriages	Deaths	All Causes (per 1,000 population)	Tuberculosis (per 1,000 population)	Children under 1 year (per 1,000 births)	Under 1 year	1 to 5 years	65 years and over
State of Connecticut	**1,558,996**	**2220**	**85**	**1363**	**1345**	**10.4**	**0.7**	**65.9**	**154**	**33**	**472**
Ansonia	19,291	10	....	23	7	4.4	0.6	41.7	1	1	1
Branford	7,014	5	....	10	2	3.4	....	....	....	....	1
Bridgeport	170,717	250	12	122	127	8.9	0.7	70.6	18	2	31
Bristol	25,354	60	....	24	19	9.0	....	80.8	4	....	10
Danbury	21,931	39	....	18	28	15.3	1.0	22.8	1	1	14
Derby	12,732	35	....	6	8	7.5	....	84.9	3	....	2
East Hartford	13,950	6	....	15	4	3.4	....	....	....	....	2
Enfield	13,039	21	....	9	9	8.3	....	42.6	1	....	4
Fairfield	15,041	8	1	10	13	10.4	0.8	66.7	1	....	5
Glastonbury	6,124	3	....	14	3	5.9	....	....	....	....	1
Greenwich	25,790	47	3	65	16	7.4	0.5	78.8	3	....	3
Groton	11,045	7	1	11	5	5.4	....	....	....	....	3
Hamden	10,434	5	....	7	6	6.9	1.2	....	....	....	3
Hartford	164,228	349	15	180	158	11.5	0.9	78.9	26	6	42
Killingly	9,218	16	1	8	9	11.7	....	76.9	1	....	5
Manchester	21,505	41	....	15	17	9.5	0.6	53.1	2	1	9
Meriden	36,529	58	2	43	44	14.5	1.3	95.5	6	1	22
Middletown	22,891	26	1	25	38	19.9	1.0	41.2	2	1	14
Milford	14,073	5	....	4	8	6.8	0.9	....	....	....	5
Naugatuck	16,589	5	....	13	4	2.9	....	91.6	1	....	1
New Britain	69,482	131	4	57	57	9.8	0.7	86.7	12	2	7
New Haven	181,823	277	12	183	172	11.4	0.7	40.8	13	2	55
New London	29,566	47	....	32	28	11.4	....	64.5	4	....	12
Norwalk	29,859	56	2	26	28	11.3	....	74.4	4	2	9
Norwich	30,576	64	1	39	37	14.5	1.6	62.3	4	2	11
Plainfield	8,694	11	....	3	7	9.7	....	80.0	1	1	2
Plymouth	6,364	11	....	3	4	7.5	1.9	151.8	1	....	1
Putnam	9,105	18	1	5	8	10.5	1.3	182.7	3	....	1
Seymour	8,116	8	....	5	....	....	....	....	....	....	....
Shelton	11,398	12	....	7	15	15.8	2.1	160.0	2	....	5
Southington	9,727	13	1	7	4	4.9	....	....	....	....	2
Stafford	5,454	15	1	3	10	22.0	....	134.1	2	....	4
Stamford	47,373	99	4	51	49	12.4	0.8	64.0	6	2	13
Stonington	10,930	10	....	11	11	12.1	....	10.6	1	....	4
Stratford	16,768	6	1	11	8	5.7	....	....	....	....	7
Thompson	5,203	3	....	4	5	11.5	....	137.9	1	....	2
Torrington	24,929	35	1	15	14	6.7	0.5	48.9	2	3	2
Vernon	8,787	10	....	11	3	4.1	....	85.1	1	....	....
Wallingford	12,571	12	....	7	12	11.5	....	....	....	1	8
Waterbury	104,047	173	5	56	86	9.9	0.2	27.1	5	2	29
Watertown	7,359	2	1	6	5	8.2	....	137.9	1	....	2
West Hartford	11,562	9	....	11	16	16.6	....	135.5	2	....	8
West Haven	18,334	33	3	11	19	12.4	1.0	157.4	5	....	5
Westport	5,685	1	....	3	3	6.3	....	....	....	....	3
Wethersfield	5,141	4	....	7	4	9.3	....	....	....	....	....
Winchester	9,074	20	....	8	11	14.5	1.3	....	....	....	3
Windham	14,391	9	....	7	18	15.0	1.7	111.8	3	1	3
Windsor	6,584	2	....	4	3	5.5	....	....	....	....	2
Towns under 5,000	212,599	133	12	....	183	10.3	0.8	43.3	11	2	94

for the month of October, 1926

DEATHS FROM IMPORTANT CAUSES

Diseases of the Heart	Encephalitis Epidemic	Pneumonia Undefined	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis-Pulmonary	Tuberculosis Other forms	Cancer	Meningitis-Cerebrospinal	Poliomyelitis	Pneumonia—Lobar	Pneumonia—Broncho	Diarrhoea-Enteritis Under 2	Puerperal Diseases	Accident	Suicide	Homicide	Institutional Deaths	Non-resident Deaths
214		**1**	**1**		**2**	**1**	**6**	**17**	**87**	**10**	**145**	**1**	**2**	**34**	**38**	**30**	**10**	**97**	**20**	**2**	**467**	**234**
									1									1				
1																						
23								1	8	1	13			3	3	6	2	14		1	60	16
1														2			1	1			3	1
4								1	1		3			1		1		4			7	3
1											2				1			1			5	4
1																						
1											2				3						1	
2					1				1							1		1				1
1								1	1		1			1			1	1			11	5
											2			1								3
1											1							1				1
20			1				3		6		26		1		7	8		12	5		92	51
1								1										2				1
5									1	1	1							3			3	1
5								1	2		7			2		1		4			12	4
5							1	1	5		1				3	1		3			28	24
3									1					1							1	
														1	2							
7								1	2		8					3	1	4	1		22	4
24								1	9	3	16			8	5		1	12	6		77	21
8								1			4				1			3		1	10	5
4								1			4			4		2		3	1		6	3
8								1	10		4				1	1		1			13	8
											3	1			1			1				
									1						1							
2									1													
1									8					1	1			1			7	8
2																						
											1				1						1	1
11		1				1		1	2	1	5			1		2		4	2		17	8
2											1											1
											1			1								
																	1	1				
									1		1		1					2			2	3
1																						
3							1											1			4	1
13								1	2		15			3	2	1	2	4	1		30	8
1								1			1				1							1
4											3				1						3	
2									2	1	2			2	1	2		1			5	6
1																						
2																			1			
3											3										4	1
1									2	1	1							2			6	
																		1	1			
39					1		1	3	20	2	13			2	3	1	1	8	2		37	40

Laboratories

SUMMARY OF BUREAU ACTIVITIES FOR NOVEMBER, 1926

DIAGNOSTIC

	+	—	?	Unclass-ified	Total	
Typhoid	6	65	......	......	71	
Paratyphoid A	......	71	......	......	71	
Paratyphoid B	......	71	......	......	71	
Diphtheria	269	2,452	......	......	2,721	
Diphtheria Virulence	24	43	......	......	67	
Vincent's Angina	4	554	......	......	558	
Haemolytic Streptococci	10	549	......	......	559	
Tuberculosis	18	103	......	......	121	
Syphilis	238	1,556	159	......	1,953	
Gonorrhoea	27	79	......	......	106	
Malaria	......	2	......	......	2	
Rabies	1	3	......	......	4	
Glanders	2	1	......	1	4	
Special Specimens	......	9	......	20	29	6,337

CHEMICAL AND BACTERIOLOGICAL

Milk samples	627	
Water samples	492	
Sea food samples	27	
Sewage samples	32	
Clinical thermometers	1,428	2,606
Total examinations made		8,943

More Laboratory Work Than Ever Before

The month of November 1926 breaks all records in several respects for the amount of work done during any month in the Laboratories since they were established twenty years ago. December 1924 shows a larger number of total specimens examined but includes the examination of 8,547 diphtheria cultures that are relatively quick examinations to make, not requiring a large amount of workers' time. During November large numbers of specimens were examined in almost every variety of the laboratory work. It is interesting to note how much this November has exceeded the largest previous months during the last twenty years.

It exceeded the largest November (1924) by 990, December *(1925) by 1521, January (1925) by 1054, February (1925) by 2229, March (1925) by 1282, April (1925) by 3149, May (1920) by 3132, June (1926) by 2795, July (1926) by 4387, August (1926) by 2920, September (1926) by 3043, October (1925) by 1982.

*With exception of December 1924.

Preventable Diseases

INCIDENCE OF DISEASE FOR MONTH OF NOVEMBER, 1926

(As compared with previous years)

A comparison of the daily morbidity reports received during the month of November, 1926, with the corresponding month for the years 1921, 1922, 1923, 1924 and 1925.

DISEASE	Average 1921-1925 for November	Mean 1921-1925 for November	1921	1922	1923	1924	1925	1926
Cerebrospinal Meningitis ..	5	5	5	7	9	3	1	2
Diphtheria	289	264	384	401	264	221	173	113
Encephalitis Epidemic	2	4	......	1	2	4	4	3
Measles	380	395	395	653	571	22	261	58
Poliomyelitis	5	5	5	5	9	3	3	1
Scarlet Fever	327	343	301	375	343	432	185	230
Smallpox	2	4	......	3	2	4	......	......
Typhoid Fever	20	18	28	18	22	13	17	11
Tuberculosis Pulmonary	118	115	106	149	119	115	103	105
Whooping Cough	216	235	114	246	186	302	235	175

A comparison of the morbidity on these diseases for the two preceding months, September and October with the November record is as follows:

	September	October	November
Cerebrospinal Meningitis	6	3	2
Diphtheria	42	108	113
Encephalitis Epidemic	4	2	3
Measles	26	62	58
Poliomyelitis	11	9	1
Scarlet Fever	89	139	230
Smallpox	......	......	......
Typhoid Fever	28	17	11
Tuberculosis Pulmonary	127	112	105
Whooping Cough	110	134	175

Cases of Other Reportable Diseases

Chickenpox	426
Conjunctivitis Infectious	1
Dysentery Bacillary	1
Encephalitis Epidemic	3
German Measles	7
Influenza	16
Malaria	1
Mumps	26
Septic Sore Throat	5
Gonorrhoea	121
Syphilis	80
Total	687

Cases of Occupational Diseases

Anthrax	1
Pneumoconiosis	1
Toxic conjunctivitis inflamed lids left eye	1
Toxic Dermatitis	1
Total	4

Cases of Certain Reportable Diseases

November, 1926	Population Est. as of July 1, 1926	Typhoid Fever	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Meningitis Cerebrospinal	Poliomyelitis	Pulmonary Tuberculosis	Other Forms Tuberculosis	Pneumonia Lobar	Broncho-Pneumonia	Other Com. Diseases
State Total	1,558,996	11	58	230	175	113	2	1	105	3	107	80	687
NEW HAVEN CO.	**467,392**	**6**	**1**	**37**	**24**	**23**			**55**	**3**	**23**	**13**	**278**
New Haven	181,823	1		20	2	5			27	2	9	6	78
Waterbury	104,047		1	2	1	7			12		5	3	14
Meriden (city and town)	36,529	2		6	21	2			6		4	2	134
Ansonia	19,291			1		2			2				14
West Haven	18,334	3		1					2	1	1		11
Naugatuck	16,589			2		1							
Wallingford (town and boro)	12,571												
Milford	14,073								1			2	1
Derby	12,732												
Hamden	10,434			1		2			1		3		5
Branford (town and boro)	7,014					3					1		2
Seymour	8,116			3		1							5
Towns under 5,000	25,830			1					4				14
FAIRFIELD CO.	**371,561**	**1**	**7**	**119**	**40**	**33**			**10**		**31**	**14**	**99**
Bridgeport	170,717		1	75	4	14			6		11	6	24
Stamford (city and town)	47,373	1	4	7	11	5			1		2	1	21
Norwalk	29,859			16	12	2					11	3	11
Danbury (city and town)	21,931			2		2			2		1		
Greenwich (town and boro)	25,790			8	8						4	2	5
Stratford	16,768			2		3							2
Fairfield	15,041			5					1			1	20
Shelton	11,398												1
Westport	5,685				2	2							4
Towns under 5,000	26,999		2	4	3	5					2	1	11
HARTFORD CO.	**393,501**	**2**	**2**	**32**	**64**	**45**	**1**	**1**	**30**		**40**	**40**	**243**
Hartford	164,228			20	20	3	1		16		10	24	117
New Britain	69,482			3	11	1			8		8	5	9
Bristol (city and town)	25,354	1		2	10	2			2		7	4	30
Manchester	21,505		1	1		18						1	6
Enfield	13,039		1		2	14					1		1
East Hartford	13,950			1							2	1	5
Southington(town and boro)	9,727			2		2					4	1	4
West Hartford	11,562			1	4				1			1	22
Windsor	6,584				13	1			1		1		3
Glastonbury	6,124												
Wethersfield	5,141								1		3		
Towns under 5,000	46,805	1		2	4	4		1	1		4	3	46
NEW LONDON CO.	**113,554**	**1**	**1**	**24**	**35**	**.2**			**3**		**9**	**5**	**30**
Norwich (city and town)	30,576	1		3							1	1	1
New London	29,566		1	3		1							13
Stonington (town and boro)	10,930											1	2
Groton (town and boro)	11,045			1	2	1			1		4		12
Towns under 5,000	31,437			17	33				2		4	3	2
LITCHFIELD CO.	**80,282**		**1**	**4**		**1**			**3**			**1**	**9**
Torrington (town and boro)	24,929								1				
Winchester (inc. Winsted)	9,074												
Plymouth	6,364		1	2					1				2
Watertown	7,359												
Towns under 5,000	32,556			2		1			1			1	7
WINDHAM CO.	**55,799**		**45**	**2**	**6**	**3**	**1**		**1**		**2**	**5**	**11**
Windham (inc. Willimantic)	14,391			2			1					2	
Putnam (city and town)	9,105					3					2	1	1
Plainfield	8,694												
Killingly (inc. Danielson)	9,218		40		6							1	
Thompson	5,203								1			1	6
Towns under 5,000	9,188		5										4
MIDDLESEX CO.	**49,185**	**1**	**1**	**12**	**1**	**4**			**2**		**1**	**1**	**15**
Middletown (city and town)	22,891			11		3							7
Middletown State Hospital									1				1
Towns under 5,000	26,294	1	1	1	1	1			1		1	1	7
TOLLAND CO.	**27,722**				**5**	**2**			**1**		**1**	**1**	**2**
Vernon (inc. Rockville)	8,787								1		1		2
Stafford (town and boro)	5,454				5	1						1	
Towns under 5,000	13,481					1							

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CHILDREN DO NOT HAVE DIPHTHERIA

UNLESS

PARENTS NEGLECT TO HAVE THEM

IMMUNIZED

WITH TOXIN-ANTITOXIN.

DIPHTHERIA IS PREVENTABLE

BORROWER	DATE	BORROWER	DATE	BORROWER